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retro GAMER ANNUAL

VOL. 10

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Digital Edition

TENTH EDITION

WELCOME TO THE

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Consider this book your very own time machine. Within its pages you'll be able to revisit every key era of gaming, from its start with Atari in the Seventies, to the arrival of popular home systems like the Commodore 64 and NES in the Eighties, as well as the lovable Teenage Mutant Ninja Turtles. The Nineties is represented with the likes of the *Donkey Kong Country* series and Sega's stunning slash-'em-up *Shinobi III: Return Of The Ninja Master* and we even find time to look at Core Design's excellent *Tomb Raider II*. Our final stop is the Noughties where you'll get to learn about the porting of *OutRun 2* to various home consoles, as well as the sensational impact of Capcom's *Resident Evil 4*, a game which is still going strong today. So there you have it, 40 years of gaming in one stunning book. Enjoy.

FUTURE

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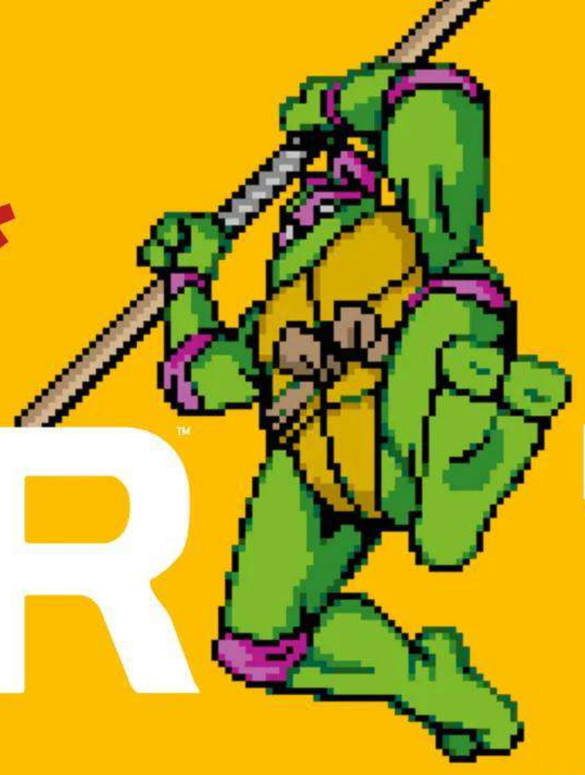

THE ULTIMATE GUIDE TO CLASSIC VIDEOGAMING

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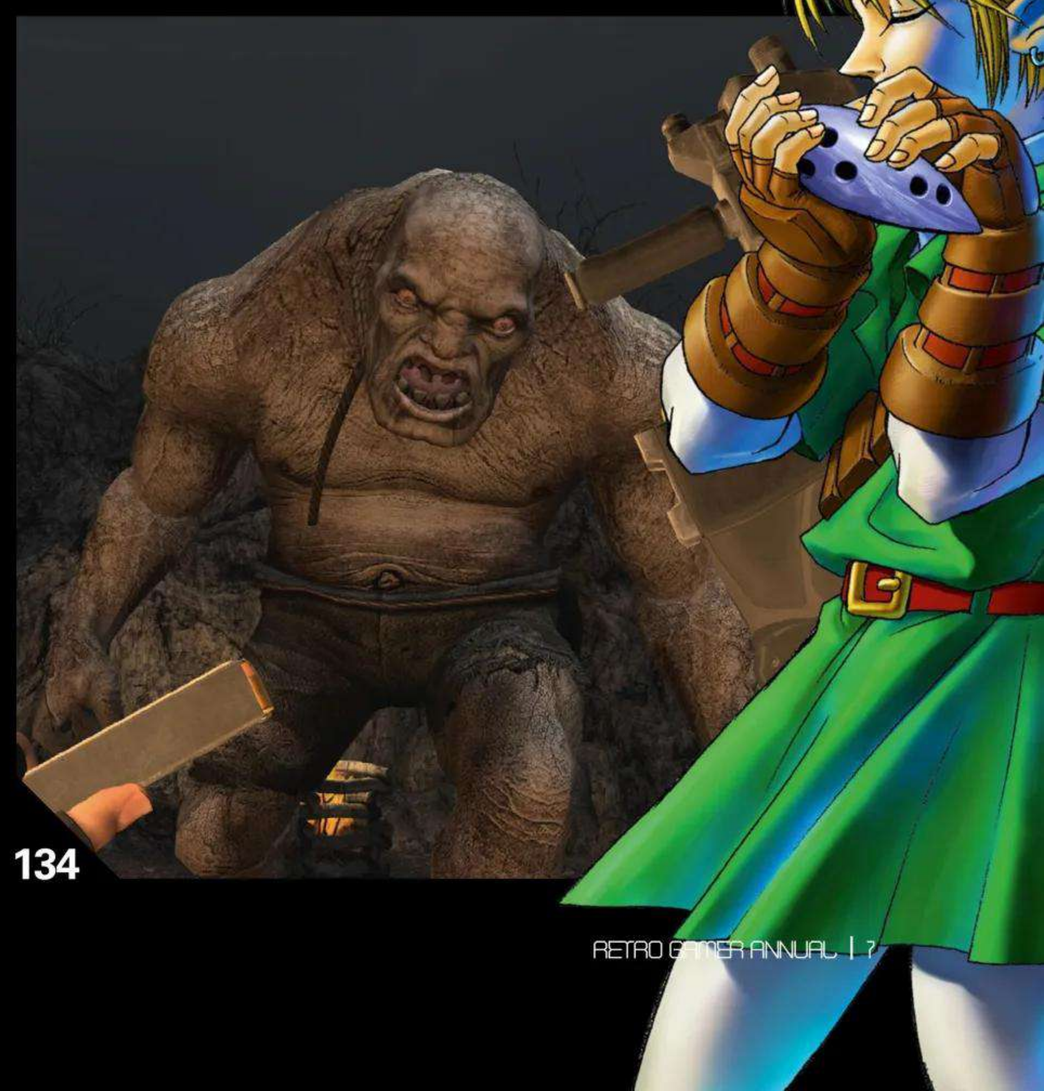


THE LEGACY OF ATARI

WE REVISIT THE TRIUMPHS AND DISASTERS OF THE COMPANY THAT INVENTED THE VIDEOGAME BUSINESS. WELCOME TO THE INCREDIBLE ATARI STORY, TOLD DECADE BY DECADE BY THE PEOPLE WHO WERE THERE

WORDS BY PAUL DRURY, MARTYN CARROLL AND NICK THORPE

"I was ready for the chaos," says Atari Inc cofounder Nolan Bushnell, with that familiar knowing smile. "I was surprised how quickly we grew but it didn't flummox me. There's a saying that good luck happens to the prepared."

Though it has been 51 years since Nolan, along with Ted Dabney, started Atari, the idea of creating a company which produced commercial videogames stretched back into the previous decade. Nolan combined his experience of working at an amusement park in the mid-Sixties with the fun he'd had playing *Spacewar!* in the AI lab at Stanford with his *Go*-playing friends later in the decade, concluding if he could somehow put a coin slot on this compelling game of deep-space combat, the quarters would roll in.

He was right – but the prohibitively high costs of the technology meant his concept could not be realised until the start of the Seventies. *Computer Space*, produced by Nutting Associates in 1971, looked wonderfully futuristic, with its curvaceous cabinet and space-age setting, yet it was the simple and blocky *Pong*, released the following year, which properly announced the arrival of Atari.

In the subsequent years, Atari became synonymous with videogames. The creativity, the invention, the huge profits, the big money licences, the wild partying, the all-nighters of crunch time, the coder burn outs, the excesses and the industry crashes… it all started with Atari. Though it established its brand in the arcade business, Atari was soon expanding into other fields, first home consoles, then microcomputers, pinball and handhelds. Its distinctive logo has appeared on innumerable titles across a myriad of formats, as well as adorning a million T-Shirts – it even appears in both *Blade Runner* films.

As we reflect on its first 51 years, we wonder if Nolan can sum up what made Atari become the fastest-growing company in American history. "We focussed on innovation, full stop," he decides. "We created a culture in which we valued outcome over profit." Given he sold the company to Warner Communications in 1976 for $28 million, the profits did indeed follow, but it's that spirit of wanting to give players new experiences, through its games and machines, which we will celebrate across the last five decades.

And the journey isn't over yet. Atari has a new CEO, Wade Rosen, a proud retro gamer, who wants to champion the company's rich past as well as making it a major player in videogaming's future. We asked Atari's first boss if he had any advice for its current one? "I think Wade is exactly what the company needed," says Nolan. "He understands games and values the brand. I believe he needs to find a way to think out of the box and do something somewhat revolutionary. It's much more difficult than doing something evolutionary but that's where you create exceptional value." It's no small task, but at least we know the revolution will be televised. ▶

DEFINING FIGURES

NOLAN BUSHNELL

■ Cofounder and public face of Atari during its formative years, his drive and vision made the company internationally recognised. A biopic is long overdue.

TED DABNEY

■ Though he sold his share of the company to Nolan in 1973, Ted's role in cofounding Atari and producing its early arcade titles was pivotal. He sadly passed away in 2018.

AL ALCORN

■ Atari's first engineer, Al was instrumental in creating *Pong*, the home *Pong* console and the VCS, along with many other innovative products and prototypes.

MIKE HALLY

■ Mike joined Atari in the Seventies and was there to close the doors 25 years later. Along the way, he had a hand in such classics as *Gravitar*, *STUN Runner* and *Star Wars*.

AND THE REST

There are many Atari alumni we could mention, including Dan Van Elderen who was Atari's long-serving staff member and eventually became president of Atari Games in the Nineties. Ray Kassar became Atari's CEO after the Warner takeover, but was fired in 1983 as the company tanked. Dona Bailey was one of the first female engineers to work in coin-op, and worked on *Centipede* with Ed Logg, while Dave Theurer worked on numerous arcade gems, including *Tempest*, *Missile Command* and *I, Robot*.

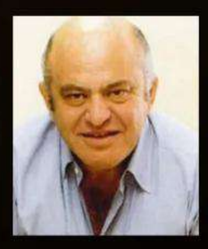
ED LOGG

Dubbed Atari's 'golden boy', Ed was responsible for some of its biggest arcade hits, including *Centipede*, *Gauntlet* and Atari's most successful coin-op, *Asteroids*.

HOWARD SCOTT WARSHAW

Howard's first three VCS titles – *Yars' Revenge*, *Raiders Of The Lost Ark* and *ET* – all sold a million. Read about his incredible journey in his book, *Once Upon Atari*.

JACK TRAMIEL



Famous for founding Commodore, he bought Atari's consumer division in 1984 in the wake of the industry crash and played a key role in bringing the Atari ST to market.

WADE ROSEN

Atari's current CEO. Though considerably younger than the company he now leads, Wade is a dedicated retro gamer and subscriber to our magazine. Respect due.

Ted Dabney Photo credit: Dabney family

THE SEVENTIES

FROM ITS FIRST BIG SUCCESS IN THE ARCADE TO PIONEERING THE CARTRIDGE-BASED CONSOLE, ATARI IN THE SEVENTIES LED THE WAY BUT THE ROAD WAS PAVED WITH POTHOLES AS WELL AS GOLD

All grand adventures start with a single step and for Al Alcorn, it began when he walked into the Atari offices in Santa Clara, California, in June 1972 for his first day as its first employee. "Actually, the company was still called Syzygy then," he corrects us, "and they did have a secretary, Cynthia, who was Nolan's babysitter and used to show up after she got out of high school. I honestly thought Atari would fail after a year or two like most start-ups."

It was a humble beginning for a company which would go on to invent a billion-dollar industry. At this stage, the bills were paid by the revenue from operating a route of pinball tables and other coin-op machines, including several *Computer Space* cabinets, set up in various locations, and while Nolan and Ted worked on a two-player version of their debut, Al was given a very simple brief. "Two paddles and a spot that moves was all Nolan said," remembers Al. "He told me it was going to be a consumer product for General Electrics but that was all bullshit. He just wanted to inspire me to make something as a training exercise to get me started and then he'd throw it away…"

> "I HONESTLY THOUGHT ATARI WOULD FAIL AFTER A YEAR OR TWO LIKE MOST START-UPS"
> AL ALCORN

Unaware that Nolan expected *Pong* to bomb, Al got to work on a bench in the front office, using a Tektronic oscilloscope and his knowledge of TTL (transistor-transistor logic) design, and by September 1972, he had a working prototype. Ted hastily constructed a tabletop cabinet and the unit was placed in Andy Capp's Tavern in Sunnyvale, right next to a *Computer Space* cab, appropriately enough. Al explains it's an apocryphal tale that he was called out that same night because the machine had crashed due to an overflowing cash box, but he was pleasantly surprised to find over $100 in quarters a week later, convincing Nolan, who had originally offered the game to both Williams and Bally Midway, that Atari should produce *Pong* itself.

Turning Atari from a design studio into a manufacturing company was a challenging task, but *Pong*, a game so simple even the drunk could play it, proved a huge hit. Yet with success came an array of imitators and downright rip-offs from companies eager to grab a piece of the coin-op pie. Atari tried to counter this with new ideas, releasing *Space Race* and the maze game *Gotcha* in 1973 (the latter had a very small run of cabinets with controls shaped like breasts, which collectors pay a fortune to get their hands on), but neither were big hits. Atari thus returned to *Pong*, producing various versions including the cuboid, four-player *Quadrapong*, but it wasn't until it merged with Kee Games, a company created by Nolan as a way to get round exclusive deals with distributors, that it had another major success in the arcade with *Tank*, released in 1974.

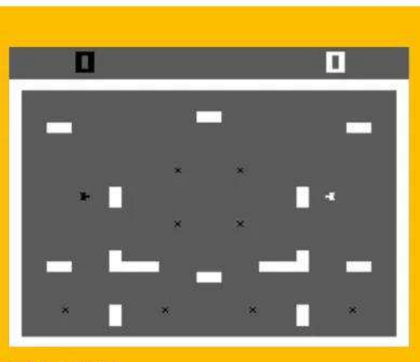
Around this time, Atari took a bold and ultimately lucrative step into the consumer market, beginning with a home version of *Pong*. "We knew we would have to create a single custom chip," explains Al, "which I'd never done before and didn't see how we could… but Nolan insisted. I worked with an engineer I'd hired, Harold Lee, and we were amazed when our design worked! I thought

DEFINING GAMES OF THE SEVENTIES

PONG

1972 • ARCADE

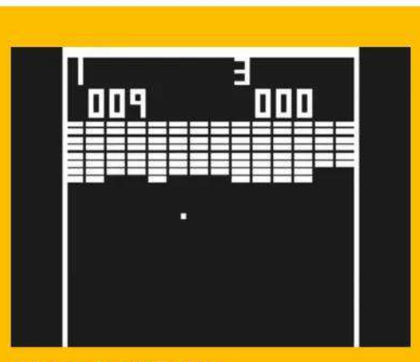
■ *Computer Space*, released the previous year, may have been the first commercial arcade machine, but *Pong* is the title that introduced videogames to the general public. Its design is so beautifully simple, scientists have even taught brain cells in a dish to play it.



TANK

1974 • ARCADE

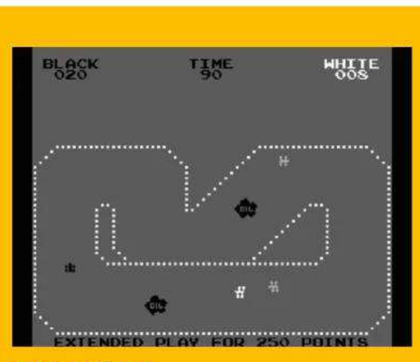
■ Developed by Steve Bristow and Lyle Rains at subsidiary Kee Games, *Tank* was the hit game Atari desperately needed to survive a difficult financial period. Numerous sequels followed, adding more players, and it inspired the VCS pack-in game, *Combat*.



BREAKOUT

1976 • ARCADE

■ Designed by Nolan and farmed out to a young Atari employee, Steve Jobs, to work on (who in turn got his talented friend, Steve Wozniak, to do the heavy lifting), this bat, ball and brick affair was a huge success and its legacy can still be seen in games like *Arkanoid* and *Puchi Carat*.



SPRINT

1976 • ARCADE

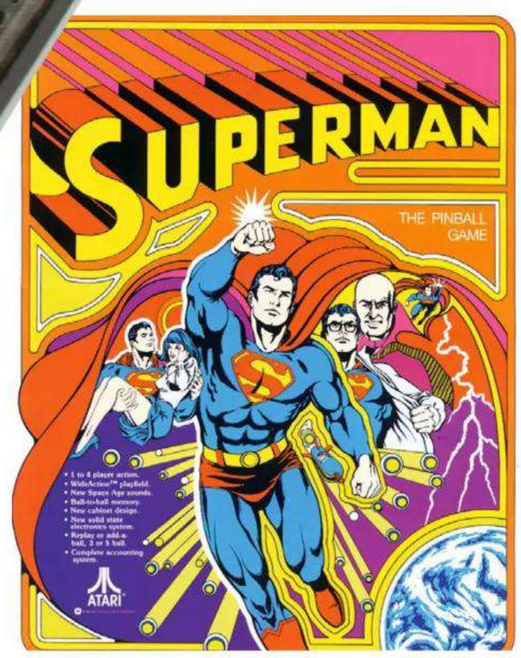
■ The Seventies saw the birth of many videogaming genres and the top-down racer is one that endures to this day. Dennis Koble, who would go on to cofound Imagic and create the *PGA Tour Golf* series, cut his teeth with this slick, multiplayer driving game.

NIGHT DRIVER

1976 • ARCADE

■ Not content with offering a bird's-eye view of the action, Atari pioneered the first-person racer the same year. Inspired by electro-mechanical machines such as *Speedway* and obscure German arcade game, *Nurburgring 1*, *Night Driver* was a thrilling ride, especially when played on a sit-down cabinet.

» Atari entered the pinball market in 1975. *Superman*, designed by Steve Ritchie and featuring striking artwork by George Opperman, and sound by a young Eugene Jarvis, was its best table.



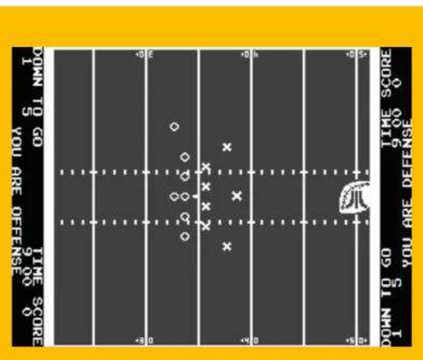
that was the hard part done but boy, was I wrong. I had to design all of the other components, from the RF modulator to the plastic case, and the injection moulding tooling to make that cost almost as much as the custom chip. All this with a staff of five!"

Released in 1975, Atari's home *Pong* was distributed by Sears and initially sold under its brand name, Tele-Games. It did well at retail, shifting an estimated 200,000 units over the next few years, though its success attracted the attention of Magnavox, the producers of the first home console back in 1972. Its machine, the Odyssey, designed by the late Ralph Baer, had clearly 'inspired' *Pong* in the first place and Atari paid a reported $1.5 million to become an official licensee. With that kind of money involved, the consumer market was obviously an avenue worth pursuing, as was the positive relationship established with Sears, and development soon began on what would become the Atari Video Computer System – VCS, for short. "It was the right technology at the right time," says Nolan. "The microprocessor had just become available and we saw the opportunity." Again, Al Alcorn was a key member of the development team. As executive project leader, he managed the small team designing the chips and software and is also proud to have done some astute headhunting. "The product design engineering was done by the excellent team we hired away from National Semiconductor," he grins. "The first year of production [of the VCS in 1977] was reasonably successful but then sales fell off the next year. Normally, we would have started design on the next-generation ▶

COMBAT

1977 • ATARI VCS

■ It may have been based on *Tank*, but this ubiquitous VCS cartridge added much to the mix with 27 different modes, featuring invisible mazes, bendy bullets and satisfying ricochet kills. Best of all are the aerial battles, with jets, biplanes and concealing clouds.



ATARI FOOTBALL

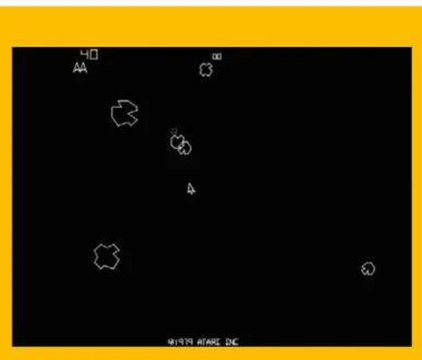
1978 • ARCADE

■ More groundbreaking work as Atari enters the sports simulation arena with this graphically simple but tactically deep take on the American interpretation of football. *Soccer* was released the following year, increasing the number of players – and trackball controllers – to four.

LUNAR LANDER

1979 • ARCADE

■ Atari's first game to use a vector display, this coincided nicely with the tenth anniversary of the Moon landings. Designed by Howard Delman, it took the old text-based lunar-landing concept prevalent on mainframes and turned it into a tense arcade affair.



ASTEROIDS

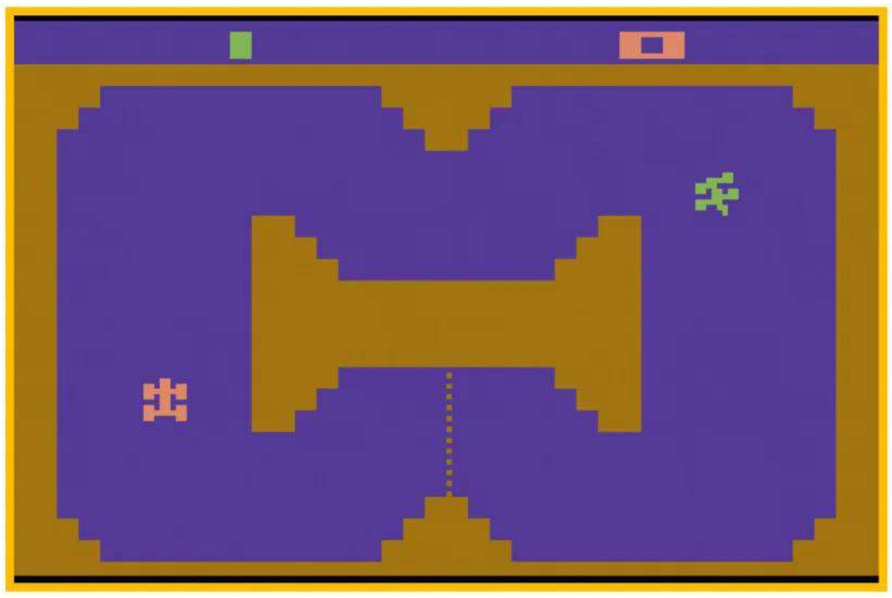
1979 • ARCADE

■ Ed Logg's and arguably Atari coin-op's finest hour – and talking of hours, the current high score on *Asteroids* of over 41 million points took John McAllister 58 hours to achieve on a single credit. We could watch those rocks float gracefully for days, too.

HERCULES

1979 • PINBALL

■ Atari's short-lived pinball division made some excellent tables, *Superman* in particular being one of the best of its era, but for something truly unique, this mammoth, 18-square-feet table takes some beating. It's so big it used a pool cue ball rather than the standard metal ball.



» [Atari VCS] Based on the 1975 arcade game *Indy 800, Indy 500* was a fun top-down racer for Atari's home console.

» Atari's *Touch Me* was a copy of MB's handheld *Simon*, which in turn was 'heavily based' on Atari's arcade title *Touch Me* from 1974. What goes around…

PHOTO CREDIT: JOE HAUPT

» [Atari VCS] *Pelé's Soccer* – Long before EA and Audiogenic, Atari knew the power of attaching famous names to mediocre products.

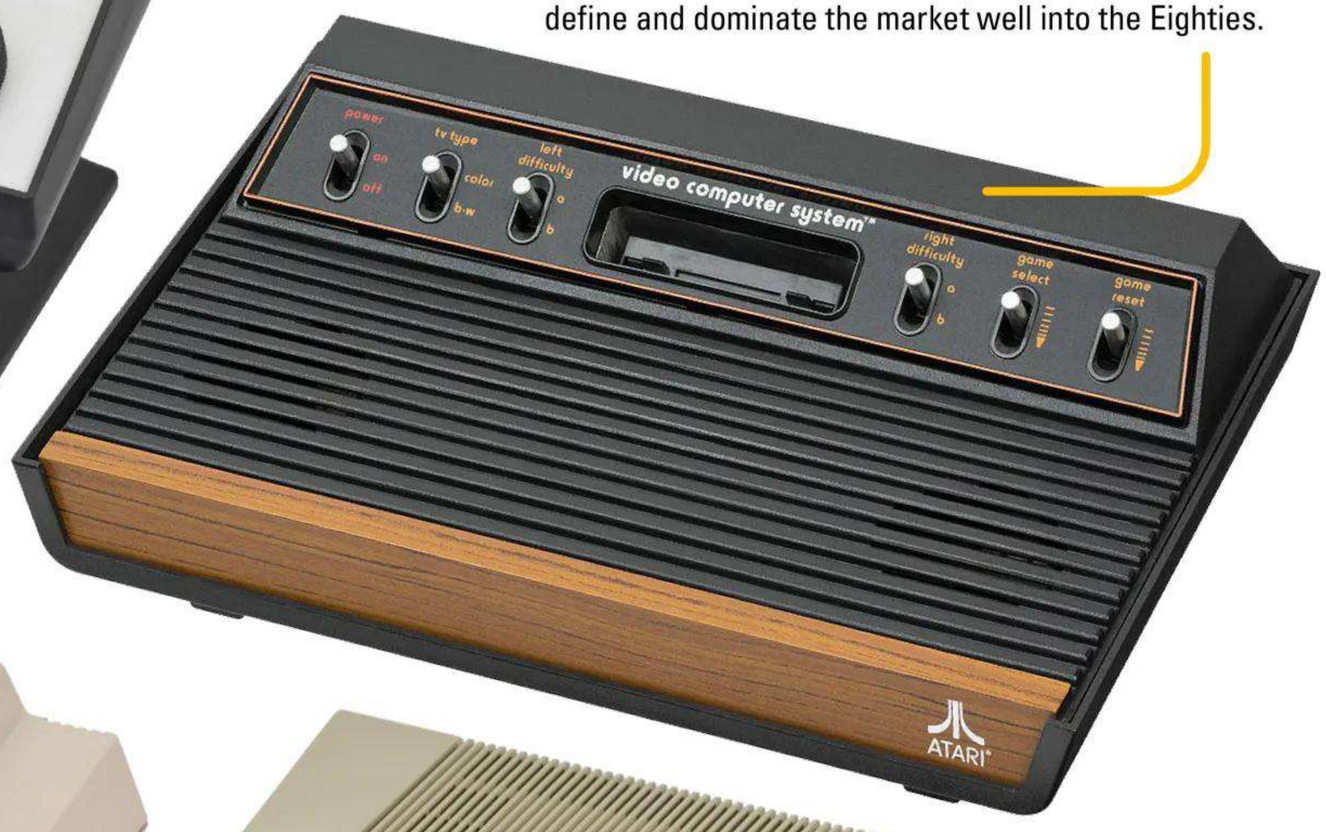
DEFINING SYSTEMS

HOME PONG 1975

It made sense for Atari to make a consumer version of its arcade hit and it followed it with a dedicated *Stunt Cycle* console before recognising a cartridge-based system was the way forward.

ATARI VCS 1977

Fairchild's Video Entertainment System might have been the first console to use interchangeable cartridges when released in 1976, but the VCS would define and dominate the market well into the Eighties.



ATARI 400 1979

With its distinctive membrane keyboard and four joystick ports as standard, Atari's entry-level machine may only have 8K of RAM as standard but brilliant games like *Star Raiders* showcased its potential.

ATARI 800 1979

Adding a decent, typewriter-style keyboard, an extra cartridge port and 'hidden' slots to allow convenient memory expansion did not stop the cheaper 400 model outselling it by a considerable margin.

product but Warner Communications and Ray Kassar [appointed by Warner as president of Atari in 1978] were not comfortable doing this. They poured support into the VCS and eventually sales skyrocketed but I tried to explain to Ray that if we didn't design the next-generation product, our competition would."

History would of course prove Al correct but in the short term, Warner's huge investment paid even bigger dividends. Its purchase of Atari was prompted by Nolan believing his company would not be able to launch the VCS into the home market without Warner's financial backing. He sold Atari for a cool $28 million and remained on the board, though left acrimoniously a few years later. "I was initially optimistic," admits Nolan, "but the appointment of Ray Kassar, who knew nothing about games or technology and who had a very different approach to corporate culture, was demoralising and made me lose faith in the new owners."

> "THE ATARI 400/800 COMPUTERS WERE A DREAM TO PROGRAM AFTER THE VCS"
> DENNIS KOBLE

It was out with the hot tubs and in with layers of besuited managers and marketing executives. Early cartridge releases for the VCS were often based on Atari's arcade properties – *Combat*, which riffed on the two-player battles of *Tank*, being the most obvious example – but the late-Seventies also saw some genuinely original titles appear on the console. "You could basically do what the hell you wanted at Atari," says Warren Robinett, who joined the new consumer division in 1977. "On day one, my boss, Larry Kaplan, [who would go on to cofound Activision], just said, 'Your job is to design videogames. Now go design one.'"

For a new programmer, this kind of freedom was both daunting and liberating. Armed with little more than a VCS, a manual and his own youthful enthusiasm, Warren would go on to design and code *Adventure*, his hugely ambitious attempt to translate the text adventures he had played on a mainframe computer during his college days into a joystick-controlled console title. The game broke much new ground, with an expansive world to explore, objects to interact with via a real-time inventory and NPCs which existed even if off-screen, moving and acting independently of the player based on their own 'motivations'. *Adventure*'s final code was submitted in 1979, though it was not officially released until early 1980, and Warren then decided to leave Atari. *Adventure* sold over a million units, and hinted at the possibilities of what this exciting new medium could offer. "Oh, I didn't get any congratulations from Atari," sighs Warren. "No pat on the back. Not even a pizza. Royalties? Hell, no! I was disgusted and kind of burned out, so it felt it was the right time to quit. And I'd left my little 'Fuck You' secret in there."

He's referring to *Adventure*'s infamous hidden room, which contained the first example of an Easter egg in a videogame – his name in flashing lights, defying Atari's policy of keeping its programmers strictly anonymous. Warren left Atari in 1979, the same year the company entered another emerging market – the home micro. Dennis Koble, who had previously programmed arcade hits like *Sprint* and had headed-up Atari's handheld division, which had produced *Touch Me*, became the manager of the games division for the new home computers. "The 400/800 computers were a dream to program after the VCS," he says. "They were well-designed and had a friendly development environment. And you got nice colours! I had hired Chris Crawford and Dale Yocum and together we created the Atari Program Exchange (APX) for aspiring programmers to sell [their work]."

It was a sign of Atari's overarching confidence that in the second half of the Seventies, it even set up its own pinball division, competing directly with long-established market leaders like Gottlieb and Williams. "The pinball group was really growing," remembers Mike Hally, who joined Atari in late 1977. "They'd done *The Atarians* and *Airborne Avenger* and everyone seemed really excited about the future. We had a vision of changing the entire production process, replacing mechanical components and using new materials to create much more reliable machines. In 1979 we released *Superman* and the giant *Hercules* table but then management decided we needed to reduce costs and possibly move to Chicago and that started the decline. If we'd survived, I really think we could have done something special."

Atari's pinball dreams faded and even in the arcade business, it was not having everything its own way. The rise of competitors in the USA and especially in Japan, notably Taito with its all-conquering *Space Invaders*, meant Atari was no longer the only major player. It needed a response and it came in November 1979 with the release of *Asteroids*, which would go on to be Atari's biggest-selling coin-op, and suddenly things were shining as brightly as those vectors once more.

FUJI FOREVER

One constant in the Atari story is its striking logo, long referred to as Fuji after its resemblance to the Japanese mountain. In 1972, Evelyn Seto was a production artist, working for George Opperman who had produced the original design, and it was her task to create the artwork for printing. "This was pre-computers, so it was done by hand," she explains. "I had to draw and ink the symbol using tools such as French curves and Rapidograph technical drawing pens. We used the font style Harry for 'ATARI'. I was intimately involved in creating that 'master artwork' and George's design has stood the test of time." Tim Lapetino, author of *Art Of Atari*, agrees. "It is simple and memorable but logos don't live in a vacuum. It benefitted from an association with a string of great arcade and console videogames, standout illustration and incredible advertising. Atari set the bar for visual design in quality and imagination in the games industry by bringing creatives from other industries to lead its efforts."

» (L-R) Evelyn Seto, George Opperman and Bob Flemate working on the artwork for Atari's *Airborne Avenger* pinball table.

THE EIGHTIES

AS THE NEW NEON-TINGED DECADE ROLLED AROUND ATARI WAS IN A VERY GOOD PLACE. BOTH ITS ARCADE AND HOME DIVISIONS WERE FORGING AHEAD, BUOYED BY EXCITING NEW PRODUCT LAUNCHES, WITH NO APPARENT HEADWINDS ON THE HORIZON

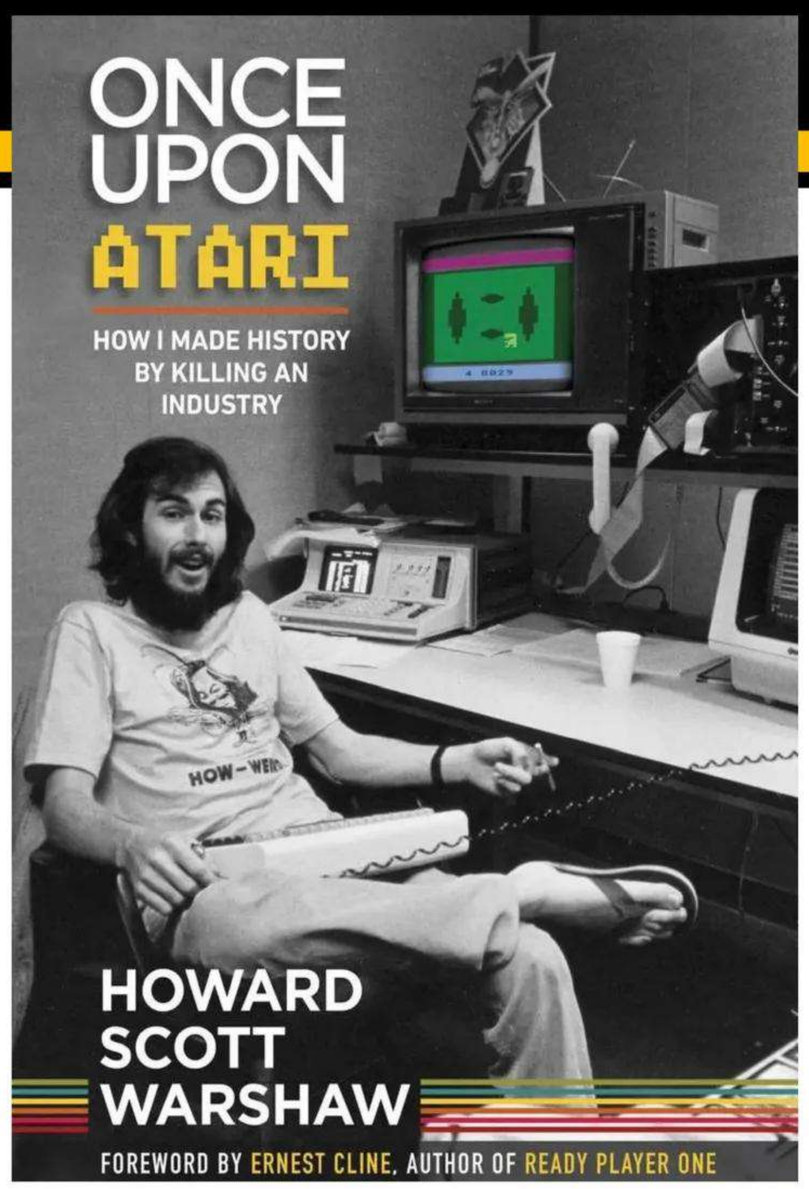
***Asteroids* became a huge hit and was one of the titles that helped usher in the so-called golden age of arcade videogames.** The momentum continued with hit after hit after *hit*: *Battlezone*, *Missile Command*, *Centipede*, *Tempest*, *Crystal Castles*. Outside of the arcades, the new 400 and 800 computers had little competition in the home market and saw sales double year on year – at least until 1983 when the newly launched Commodore 64 weighed in. Elsewhere, the Atari VCS suddenly hit high gear, having ticked along for several years. The catalyst was the conversion of *Space Invaders* which quadrupled sales of the hardware and helped the VCS become the biggest-selling console of its generation. Atari had previously converted some of its arcade hits to the VCS, but the success of *Space Invaders* saw it double down with versions of *Asteroids*, *Missile Command*, *Warlords* and *Centipede* all arriving and becoming hugely popular.

> "I HAVE ANALYSED THIS FROM MULTIPLE PERSPECTIVES AND I THINK IT'S CLEAR THAT ET WAS NOT THE CAUSE OF THE VIDEOGAME CRASH"
> **HOWARD SCOTT WARSHAW**

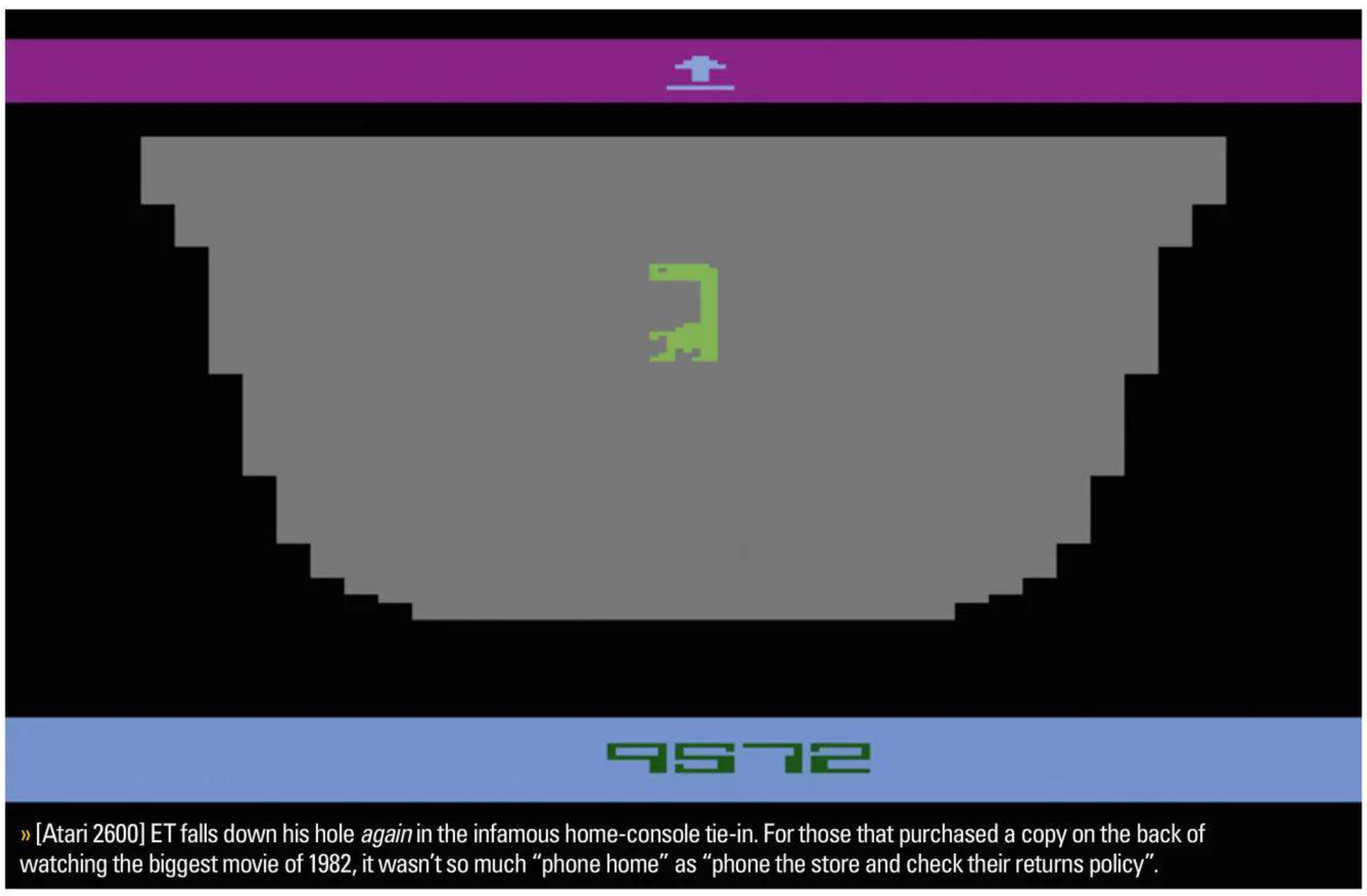
Despite Atari's success, it wasn't always easy converting the latest coin-op hits to the primitive VCS hardware. Just ask Howard Scott Warshaw. On joining Atari in 1981 he was tasked with bringing Cinematronics' *Star Castle* to the VCS. "I explained to my manager that a vector graphics game involving concentric rotating circles would not translate well," he says. "I presented him with an alternative screen layout and gameplay that I believed was much better adapted to the VCS." Rather than telling this new-start to collect his things, Howard's manager accepted his analysis and he began working on the new design. It was released in 1982 as *Yars' Revenge* and it would become Atari's biggest-selling original VCS game.

This success resulted in Howard being chosen to design and program games based on two huge Stephen Spielberg movies. The first, *Raiders Of The Lost Ark*, was a great game. The second, *ET: The Extra-Terrestrial*, was not. Written in just six weeks to hit a Christmas 1982 deadline, *ET* was a commercial success but a critical bomb. Along with the lousy VCS version of *Pac-Man*, *ET* went some way to highlighting Atari's arrogance to consumers, assuming that they'd buy any old tat providing it had a big licence slapped on it. Worse, the game is often singled out as one of the key contributors to the infamous videogame crash that rocked the US industry in 1982. Howard has written at length about this in his book *Once Upon Atari: How I Made History By Killing An Industry*, but was it really Howard in the hall with the lead pipe? "This is one of the great videogame debates," he says, smiling. "I have analysed this from multiple perspectives and I think it's clear that *ET* was not the cause of the videogame crash. It was, however, symptomatic of the kind of thinking and acting that did cause the crash."

Atari's home division suffered several other missteps prior to the crash, particularly when it came to new hardware launches. The long-awaited successor to the VCS, the Atari 5200, arrived in 1982 – which prompted the VCS to be rebranded as the Atari 2600, implying that the new console was 'twice' as good. Rather than a powerful arcade-at-home system, as originally conceived, the 5200 was basically a console-ised version of the Atari 400 computer. The new machine faced stiff competition from the ColecoVision and Atari's own resurgent 2600, which the 5200 was not out-of-the-box compatible with. The 5200 failed to take flight and it was discontinued 18 months later, having never even received a PAL release. The 5200's limited run was generous compared to that of the 1200XL computer, the successor to the 400/800 line. Featuring more memory and not much else, the new model arrived in early 1983 and departed by the summer; seemingly sunk by premium pricing. It was replaced by the 600XL and 800XL models which were better positioned to battle it out in the 8-bit price war which Commodore was waging on its competitors, but they couldn't come close to matching the sales of the C64.


ONCE UPON ATARI
HOW I MADE HISTORY BY KILLING AN INDUSTRY
HOWARD SCOTT WARSHAW
FOREWORD BY ERNEST CLINE, AUTHOR OF READY PLAYER ONE

» "It took me four years and about 300 pages to sum up my time at Atari." Howard's highly recommended account of his Atari days is available to buy at OnceUponAtari.com



» [Atari 2600] ET falls down his hole *again* in the infamous home-console tie-in. For those that purchased a copy on the back of watching the biggest movie of 1982, it wasn't so much "phone home" as "phone the store and check their returns policy".

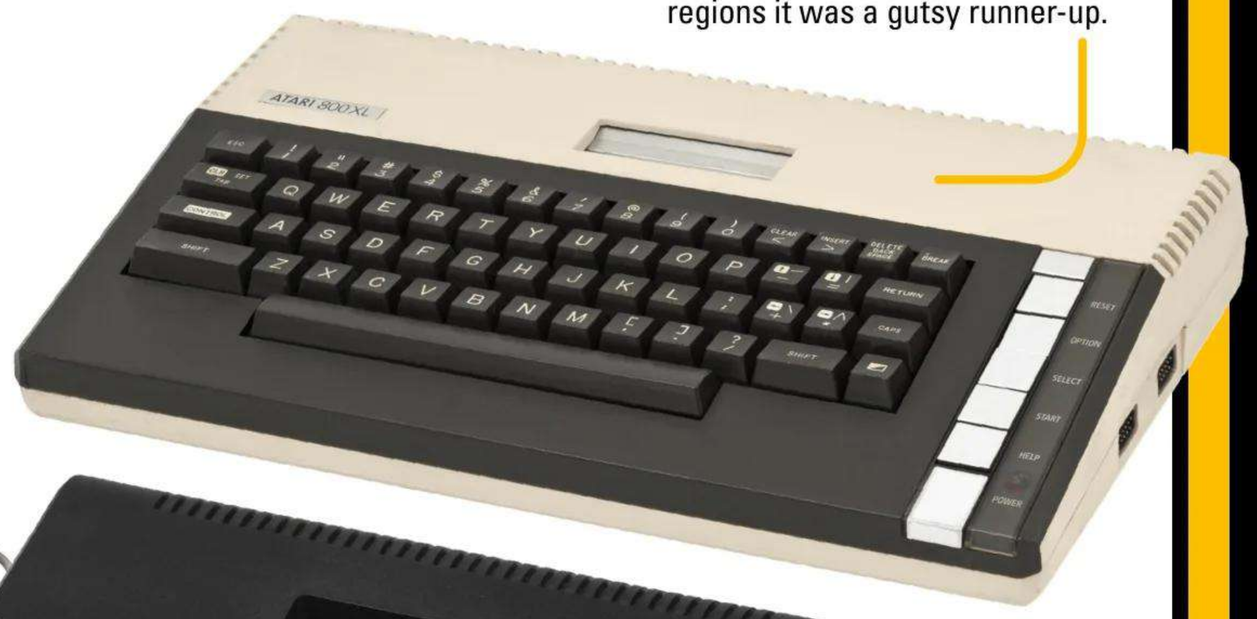
DEFINING SYSTEMS

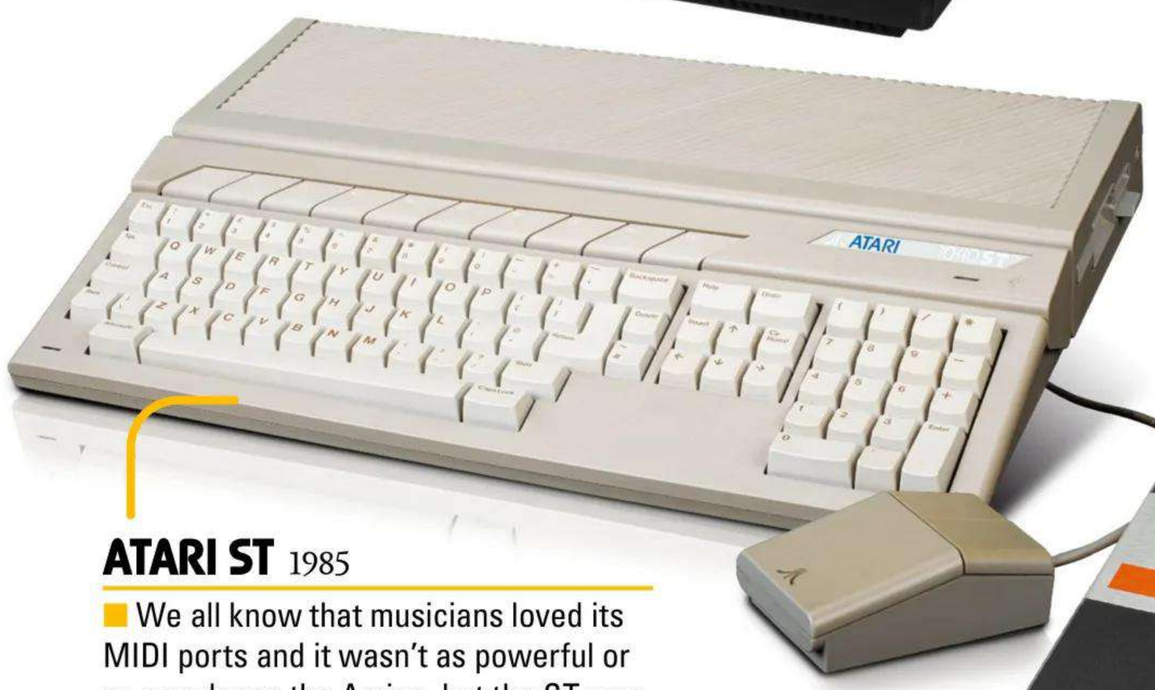
ATARI 5200 1982

The 5200 was a rather strange system in that it shared the same hardware as Atari's 8-bit computers yet it couldn't run their carts. Its non-centring joysticks were equally curious, as was its choice of pack-in, the ancient *Super Breakout*.

ATARI 800XL 1983

The 800XL was Atari's best-selling 8-bit computer and it's easy to see why, as it offered the perfect balance between cost and capability. It may have lost out to the C64 but in several regions it was a gutsy runner-up.





ATARI ST 1985

We all know that musicians loved its MIDI ports and it wasn't as powerful or as popular as the Amiga, but the ST was still a very capable 16-bit computer with a wealth of top titles (many of which were given away with the machine).

ATARI 7800 1986

This is the console that the 5200 should have been: a significant step-up over the 2600 yet still able to run the vast library of existing 2600 software. If only this had been released in 1984, as initially proposed.

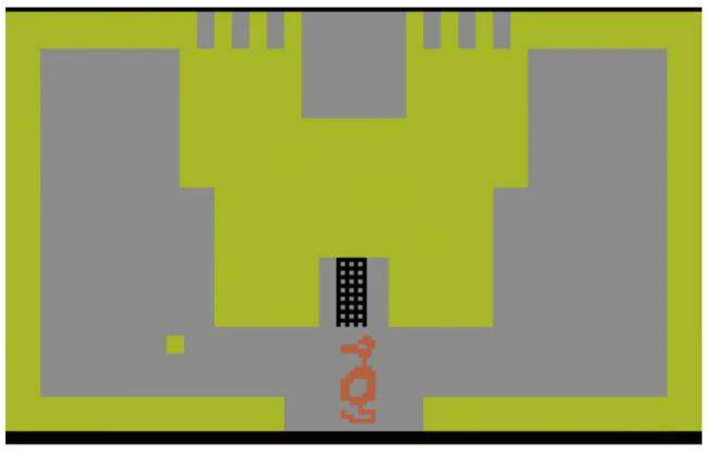
All this meant that the Atari business was in decline – or to quote Roger Cohen in the *New York Times*, it suffered an "off-the-cliff collapse". The value of parent company Warner's shares dropped sharply, costing the company more than $1billion. Action was unavoidable and it arrived in July 1984 when Warner took a hatchet to Atari, splitting off the home division and selling it to Jack Tramiel and family, previously of Commodore. Tramiel named the company Atari Corporation, while Warner retained the arcade division which was rebranded as Atari Games.

ATARI 2600 JR 1986

Styled on its sibling, the 7800, the cost-reduced 'Junior' model ensured that the 2600 would be a viable gaming platform for a decade and a half. Thanks to its very low price, this was in many ways the original Atari Flashback.

ATARI LYNX 1989

It was the portable that wouldn't fit in your pocket (unless you were wearing clown trousers), and it drained batteries for fun, but the Lynx was home to many technically impressive games that belied its handheld status.



» [Atari 2600] *Adventure* debuted in early 1980 and became a huge hit for Atari, although its creator Warren Robinett received no royalties.

Following the sell-off, Atari Corp only kept on around ten percent of its employees. Howard Scott Warshaw was not one of them. "The Tramiel takeover signalled the end of Atari history as we knew it," he says, ruefully. "That event destroyed one of the key resources that was keeping Atari going at that point – denial! That sale made the new world crystal clear. It became obvious that the Tramiels had no interest in making videogames for the VCS, they were there to make a personal computer [the Atari ST]. And after an eye-popping personal interview with Jack Tramiel, it was clear to me that my videogame career had come to an end, at least for the foreseeable future."

> "ON MARBLE MADNESS WE WORKED TIRELESSLY FOR TEN MONTHS, OFTEN SLEEPING UNDER THE LAB BENCH"
> **BOB FLANAGAN**

Although the crash in the US did affect the coin-op industry, forcing a number of arcades to close, it was largely business as usual for Atari Games. Many of the key figures like Mike Hally, Dave Theurer and Ed Logg remained and they were joined by a bunch of new recruits working on games for advanced 68000-powered hardware. One of those was Bob Flanagan who started in 1984 as a programmer and remembers how supportive his colleagues were. "In my first three months at Atari I worked with John Salwitz, Dave Ralston and Doug Snyder on *Paperboy*. I learned from all three about the different aspects of coin-op software and hardware design. After that I worked closely with Hal Canon who taught me about new ways to integrate gameplay and music. Just before I started work with Mark Cerny on *Marble Madness*, Hal and I tried to put forward a game based on Michael Jackson's *Thriller* video, but it was rejected by Jackson's team."

Atari might have been told to beat it on that occasion, but licences were big business in the arcades and coin-ops based on the *Star Wars* trilogy, *Road Runner* and *Indiana Jones And The Temple Of Doom* became evergreen hits. But licences were also costly, so the developers were encouraged to create original works. This bore brilliant results in the mid-Eighties with another wave of hits including the four-player dungeon-crawler *Gauntlet*. "After finishing *Marble Madness* Ed Logg asked for me to work with him on *Gauntlet*," says Bob. "I was in awe of Ed, who became my first long-term mentor." Although the developers were encouraged to innovate, Bob remembers that there were strict deadlines to meet. "The milestones were always significant and the pressure really was from Ed and I internally to meet the deadlines. Ed was a phenomenal project scheduler so we didn't have to kill ourselves, like Mark and I did on *Marble Madness*. On that one we worked tirelessly for ten months, often sleeping under the lab bench to catch a few hours."

DEFINING GAMES OF THE EIGHTIES

STAR RAIDERS

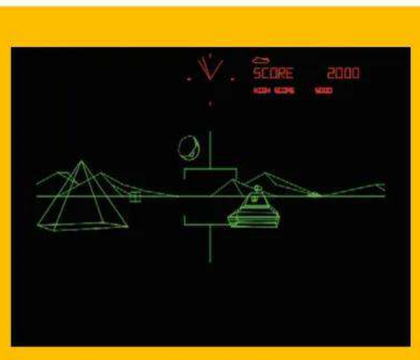
1980 • ATARI 400/800

■ The masterful *Star Raiders* was the original 'space opera', arriving years before *Elite* and deftly mixing exploration, strategy and shooting. Jeff Minter is a huge fan of the game, calling it "the best… 8K of sheer 6502 code poetry". We can't argue with that.

MISSILE COMMAND

1980 • ARCADE

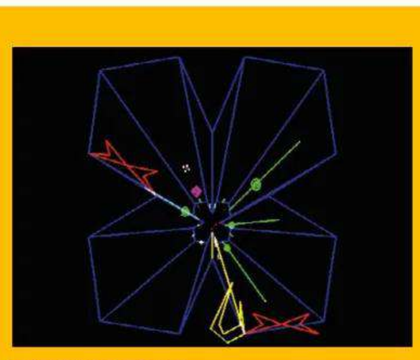
■ This product of the Cold War era sees players protecting the homeland from enemy missile attacks using a trackball-controlled defence system. It starts sedately enough but quickly turns into a frantic race against time as you desperately attempt to avoid 'THE END'. Chilling.



BATTLEZONE

1980 • ARCADE

■ Take Atari's *Tank* from 1974, rework it with wireframe vector graphics and display it in the first-person and you have *Battlezone*, the first arcade game to really immerse players in a 3D conflict. The dual-joystick controls and viewfinder pull you in further.



TEMPEST

1981 • ARCADE

■ 'QuadraScan Color' might have been a silly name for Atari's new display tech that debuted with *Tempest*, but the visuals it generated were spectacular. And once married to an intense space shooter the result is a game that threatens to overload the senses.

YARS' REVENGE

1982 • ATARI 2600

■ Simple shooters are ten a penny on the 2600. This is not one of them. It has rules and quirks and secrets and a level of challenge that eludes its rivals. There are few more satisfying videogame moments than firing a Zorlon Cannon right up the evil Qotile's exhaust port.

There was little time to rest over at Atari Corp where Tramiel's focus was on developing the Atari ST, a low-cost 16-bit home computer. The ST went on general sale in July 1985, just 12 months after the buy-out, surprising even the most cynical observer. The rush was to ensure the ST debuted at the same time as the Amiga, Commodore's rival computer. Keen to crush his old firm in this new 16-bit battle, Tramiel needed a war chest and enlisted that old trooper, the 2600 to help supply it.

"Jack was pinning his hopes on the ST and needed 2600 sales to help fund the on-going development costs," says Mike Katz, formerly of Epyx and Mattel, who was tasked with revitalising Atari's console line following the launch of the NES in the US. "If we could get the price down on hardware and software, and introduce some good new games, the plan was to make the 2600 the 'low-priced spread' for gamers who could not afford the NES. So we redesigned the hardware, dropped the price to $49.95, sold the games for less than $10, and put out a catchy TV commercial."

It worked. Atari had sold 20 million 2600s and following the release of the cost-reduced 2600 Jr in 1986, it would go on to sell a further 10 million. However, the arrival of the NES prompted Atari to consider a new console that would compete more directly with Nintendo's machine. And it had one in its back pocket. The Atari 7800 was due to be released in summer 1984 but it was shelved following the Tramiel takeover. It was dusted down and finally released in 1986, but it failed to slow Nintendo's advance. "The 7800 always had a tough time competing with the NES because of Nintendo's game library of arcade hits," says Mike. "Plus, for gamers the next logical system had to be 16-bit with better graphics, animation and sound."

» [NES] While chiefly a coin-op coder, Bob Flanagan also wrote several games for consoles including the NES conversion of *Temple Of Doom*.

With this in mind, Atari's next console would be 16-bit, only it wouldn't be an under-the-TV box. Epyx had been working on a new handheld system for several years which Atari agreed to manufacture and market as the Lynx. Mike had been involved with handheld games back in his days at Mattel so he could see the opportunity, "I always felt there was a market for a new portable system if there was a library of good games and the price was right." Atari was aware of Nintendo's new Game Boy handheld, but that was an 8-bit toy with a monochrome display, whereas the Lynx was a powerful 16-bit colour system. Both devices were released in the US in 1989 and on paper there was only one winner.

ATARI GENESIS?

In our chats Mike Katz confirmed the story that Atari almost licensed Sega's Mega Drive for release in the US. "Sega's management, Dave Rosen and Hayao Nakayama, offered us licensing rights to Sega's 16-bit system that became the Genesis," he revealed. "That would have pitted Atari against Nintendo and given us a 16-bit console to move into the new generation of hardware. I pushed for it and Jack Tramiel said, 'Yes,' but then he reneged over the cost of the licensing deal with Sega. As a result, Sega opened its US division and launched the Genesis itself."

STAR WARS

1983 • ARCADE

■ For many this game represents a series of 'bests'. It's Atari's best colour vector title, its best movie licence and possibly the best coin-op it ever conceived. The trench run is a stunning setpiece, with players physically ducking and weaving their way through it.

MARBLE MADNESS

1984 • ARCADE

■ The old trackball is used to amazing effect here, as players roll a delicate sphere around isometric 3D levels, teetering on the fine line between speed and safety as the timer ticks down. It's much imitated, especially on home systems, but it's never been bettered.

GAUNTLET

1985 • ARCADE

■ Its 'buy-in' mechanic was a pretty brazen way of increasing earnings, and it would have counted for nowt had *Gauntlet* been a dull *Dandy* clone that no one wanted to play. Instead it was the year's hottest coin-op that provided infinite play for up to four players.

HARD DRIVIN'

1989 • ARCADE

■ Dubbed "the world's first driving simulation game", and coming in a deluxe cab that mimicked a real car (right down to the ignition key and clutch), this arcade heavyweight really lived up to its billing. Doing the loop-de-loop at 60mph is hardly realistic but a lot of fun.

CHIP'S CHALLENGE

1989 • LYNX

■ Launch title *Blue Lightning* showed what the Lynx was capable of, but it was *Chip's Challenge* that delivered what handheld gamers really wanted – a devious puzzler that could be played in quick, short blasts. We wonder how many AA batteries were lost to this challenge.

THE NINETIES

ATARI CORP STARTED THE NINETIES AS IT HAD THE EIGHTIES WITH EXCITING NEW HARDWARE LAUNCHES. BUT AS JAPANESE MANUFACTURERS CORNERED THE CONSOLE MARKET AND THE PC BECAME THE DOMINANT COMPUTER FORMAT, IT BECAME A QUESTION OF WHETHER ATARI WOULD SEE OUT THE DECADE

» [Atari Lynx] The Lynx version of *RoadBlasters* is another impressive conversion job, courtesy of D Scott Williamson.

The Atari Lynx, along with fellow handhelds the Sega Game Gear and NEC TurboExpress, all offered superior hardware to the Game Boy, but Nintendo's device beat them all thanks to better battery life and several other factors. "The Game Boy had a much more attractive price point, plus the popularity of the NES, and brought many big Nintendo licences to the platform," says D Scott Williamson, who converted the Atari coin-op hits *STUN Runner*, *Toki* and *RoadBlasters* to the Lynx. "In my opinion, the quality and depth of gameplay that Nintendo had was not matched by Atari, but we were trying very hard. I was responsible for Lynx developer support at Atari and I worked closely with the guys from Epyx to support Lynx development."

As the Lynx limped on, Atari retained the big-cat-naming convention for its next consoles. The first was the Panther, a 68000-powered console designed to rival the SNES and Mega Drive. Despite being at an advanced stage of development it was ditched in 1991 in favour of the Jaguar, a powerhouse console that launched in 1993 with 64-bit features and advanced 3D capabilities. But due to unconvincing launch software and hardware supply problems (particularly in Europe), the Jaguar failed to take a bite out of the competition. Reflecting on the two consoles D Scott says, "I worked on the Atari Panther and technically it was probably too much like the older Atari 8-bit computers to be competitive. I left Atari during the transition between the Panther and Jaguar, but I think Atari's lack of AAA first-party games created a big hurdle in the marketplace. There was no *Mario* or *Sonic* to sell the console." Trevor McFur just wasn't cut out for the job and the Jaguar became just another footnote in the history of Atari, its potential largely untapped.

> "ATARI WAS SUCH A FUN PLACE TO CALL WORK. WE GREW UP AS A FAMILY AND THAT MADE IT VERY SPECIAL"
> **MIKE HALLY**

Support for the 2600, 7800 and the 8-bit computers ended at the beginning of 1992. The ST continued until 1993, thanks to a number of enhanced models such as the STE, TT and Falcon, but in the end it never came close to matching the Amiga's sales (and by this point, the computer market was dominated by PC compatibles anyway). Following the failure of the Jaguar, the business cancelled all of its software and hardware in 1995. The brand and its IP assets were sold to Hasbro Interactive in 1998, which was later taken over by Infogrames who would use the Atari name initially as a publishing brand.

So Atari Corp did (sort of) survive the decade, but what about Atari Games, the arcade division? The business continued to develop popular coin-ops throughout the early Nineties, with titles like *Klax*, *Pit-Fighter*, *Steel Talons*, *Rampart* and *Race Drivin'* becoming well-known on home systems too. Its biggest hit was 1994's *Primal Rage*, a brutal dino brawler that even spawned its own line of action figures. This success was not enough to greenlight the sequel, however, which was field-tested but not put into full production, seemingly a casualty of the declining arcade industry.

DEFINING GAMES OF THE NINETIES

KLAX

1990 • ATARI 2600

■ It may have only been released in PAL territories, but the fact that Atari was still supporting the 2600 in the Nineties has to be celebrated. Graphics aside it's a very playable version of the coin-op puzzler, with just the two-player option missing.

RAMPART

1990 • ARCADE

■ This surprising multi-phase arcade game mixes strategy, shoot-'em-up and puzzle elements – a combination that you typically wouldn't expect to find in a coin-op game. No one could accuse Atari of not taking risks with this one.

STUN RUNNER

1991 • ATARI LYNX

■ Few expected the stunning 3D arcade game to translate to the Lynx with the speed and speech intact, but this portable version somehow managed it. It was and still is the go-to game to show anyone doubting the Lynx's hardware capabilities.

TEMPEST 2000

1994 • ATARI JAGUAR

■ It was difficult to imagine how the original *Tempest* could be bettered, but this update was faster, wilder and even more hypnotic. To this day it looks absolutely amazing and sounds even better. The best Jaguar game by a long stretch.

PRIMAL RAGE

1994 • ARCADE

■ Riding on the wave of *Jurassic Park*, this one-on-one fighter sees dinosaurs and other prehistoric creatures banging heads and spilling blood. It's as daft as a brush (and knows it). Very likely the last great game from Atari's coin-op division.

» [Arcade] Atari may have lost the *Tetris* licence but it hit back with *Klax*, its own spin on the falling bricks formula.

» [Atari Jaguar] If *Alien Vs Predator* had launched alongside the Jaguar, and been followed by games of similar quality, then things might have been very different for Atari.

In 1996 Atari Games was sold to WMS Industries, formerly Williams and later Midway Games. Mike Hally was still involved with Atari at this point and remembers it being a successful and rewarding time – initially at least. "Atari morphed into a couple of teams creating content for the consumer/console-game industry," he tells us. "We hit a peak of success with *Area 51*, *Gauntlet Legends* and the *Rush* series. We used Midway's hardware and production facilities and it seemed like a marriage made in heaven. Our teams exploded in size and this was the start of the eventual downfall of Atari Games. Time frames and costs expanded in a bad way and we got caught in a battle of which teams Midway would keep as its profits fell. We were the step child so Midway ended our employment."

Mike volunteered to stay on as part of a ten-man 'deconstruction team'. "We had the ominous task of dealing with all the archives we still had from the beginning of Atari. I considered myself a glorified janitor with a mission like no other. It was a ton of work and I took it seriously, making sure things were done the correct way. We saved what we could and moved everything else to its final resting place. I was proud to be a part of that special team and it was a very interesting last day for sure." After more than 20 years with the business, this was a bittersweet moment for Mike. "Atari was such a fun place to call work. We grew up as a family and that made it very special. We were proud of the work we did and loved to tell everyone we worked at Atari – the greatest company on Earth!"

The final arcade game to carry the Atari Games name was *San Francisco Rush 2049*, released in October 1999. But this would not be the end for Atari… ▶

DEFINING SYSTEMS

ATARI LYNX II 1991

This revised model addressed two key complaints about the original: it was smaller (and lighter) and its battery life was slightly improved. It also featured a better display and a number of other sensible improvements.

ATARI FALCON 1992

The Falcon was the last of the ST line and the final computer that Atari Corp released. Unsurprisingly it was the most powerful system yet. Equally unsurprisingly, it barely made a ripple and was discontinued after a year. Photo credit: LosHawlos bit.ly/falconinfo

ATARI JAGUAR 1993

The all-powerful Jaguar, with its '64-bit' multi-CPU hardware, represented Atari Corp going all-in on a roll of the dice. It was a bold move that sadly didn't pay off, mainly because there wasn't enough quality software to sell the system.

ATARI JAGUAR CD 1995

When it perhaps should have been concentrating on new cartridge software, Atari put out this hardware add-on that introduced CD support.

Only a handful of CD-ROM games were released for it during its short commercial life.

Defining hardware images courtesy of Evan Amos with the exception of Atari ST and Atari Falcon

THE NOUGHTIES+

THE BEGINNING OF THE NEW MILLENNIUM SAW ATARI CHARTERING STORMY WATERS AND IT DIDN'T ALWAYS NAVIGATE THEM SUCCESSFULLY. NOW, HAVING WEATHERED MORE THAN ONE STORM, ATARI HAS A NEW CAPTAIN, WHO AIMS TO STEER THE SHIP TOWARDS NEW SEAS. CEO WADE ROSEN LOOKS FORWARD AND ASTERN

At the start of the new Millennium, Atari seemed a little lost. During the previous decade, it had exited the arcade, computer and console markets, fields it had helped to define, and under the ownership of Hasbro it appeared that Atari would become little more than a nostalgia brand, applied exclusively to retro remakes like the PlayStation editions of *Pong* and *Centipede*. Hasbro wasn't doing well in the games market though, and by 2001 it was looking to off-load its interactive entertainment division – a move which would result in a return to prominence for the Atari brand.

The buyer was the French publisher Infogrames, which was snapping up companies left and right in an ambitious attempt to become the biggest games company in the world. It had already swallowed up Ocean Software, Gremlin Interactive, Accolade and GT Interactive, and its latest purchase gave it the rights to both the Microprose and Atari brands, and their respective software libraries. Despite being the third-biggest game publisher in the world by 2002, after only EA and Vivendi, Infogrames wasn't a name that had a great deal of prestige, so after testing the waters with a trio of Atari-branded extreme sports games in 2002, the company decided to fully rebrand as Atari in 2003.

> "PEOPLE HAVE MEMORIES AND EMOTIONS TIED TO ATARI THAT PREDATE ME BY DECADES"
> **WADE ROSEN**

The result was that the famous logo did grace some decent releases in the Noughties and Teenies, and Atari was once again taking in hundreds of millions of dollars in revenue. On the surface, it looked to be a remarkable comeback, but things were not so rosy behind the scenes. Infogrames had racked up enormous debts during its acquisition spree, and hadn't posted a profit since the turn of the Millennium. By 2006, it was losing huge amounts of money and selling off major game properties like *Driver* and *Civilization* just to stave off bankruptcy. It also decided to sell off all of its internal development studios, including Shiny Entertainment – a company it had acquired for $47 million in 2002.

» Since 2004, the plug-and-play Flashback devices have brought classic 2600 games back into the home.

So while the first big name in videogames had returned, a name was all it really was – one that was attached to some major games, but with most of them having been licensed or acquired, they didn't feel like a part of the Atari heritage. What was worse was that the big names were beginning to slip from Atari's grasp, meaning that it couldn't capitalise on the successes it had managed to achieve, and without any development studios of its own it

DEFINING GAMES OF THE NOUGHTIES+

NEVERWINTER NIGHTS

2002 • PC

■ Bioware's classic *Dungeons & Dragons* RPG gained the Atari name after the original publisher, Interplay, ran into issues. Widespread critical acclaim ensured that it was a sales success, despite a high initial asking price. Beamdog has since released HD versions.

STUNTMAN

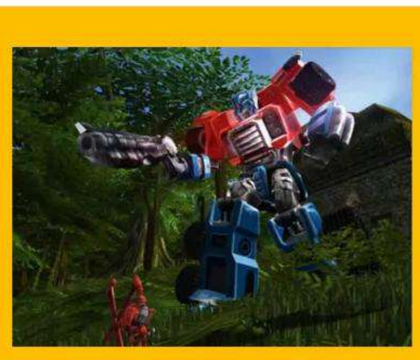
2002 • PLAYSTATION 2

■ Released under the Atari banner in the wake of the Infogrames takeover, this third-person driving game by Reflections Interactive drew on the rich history of cinematic car chases to offer thrills but rather too many spills. The stunt construction mode was very prescient, though.

ENTER THE MATRIX

2003 • VARIOUS

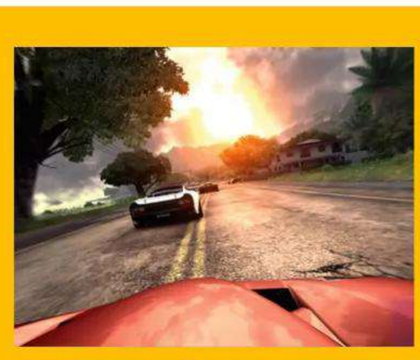
■ Based on a major film licence, hugely hyped in the press, a rushed development schedule and a thoroughly disappointing, critically panned end product which still sold in its millions – this was very much the *ET* of its day. Even being directed by the Wachowskis couldn't save it.



TRANSFORMERS

2004 • PLAYSTATION 2

■ If you ignored this Atari Melbourne House PS2 title, assuming it must be a lazy licence knocked out for gullible pre-teens, you really messed up. *Transformers* is a truly brilliant take on the venerable source material, with much free-roaming and robot morphing.



TEST DRIVE UNLIMITED

2006 • VARIOUS

■ Long before open-world reboots became a cliché, this racer adopted the formula to revitalise a classic series after years of middling entries. The Xbox 360 version was particularly impressive in that console's early life. Numerous sequels followed.

» [PS3] Atari published the excellent *Ghostbusters: The Video Game* in the US in 2009.

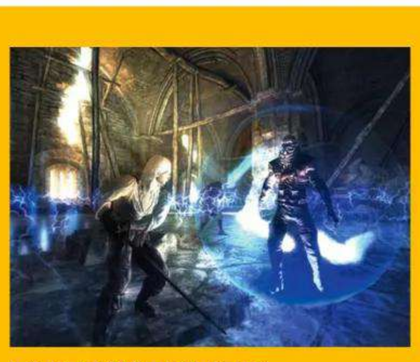
couldn't create new hits that it could bank on in years to come. Meanwhile the company's back catalogue sat largely ignored, and though the cute and convenient Flashback plug-and-play consoles were pleasant reminders of past glories, it often felt like the people managing the brand held it in less esteem than the gamers who had grown up with it.

Towards the end of the decade it had become clear that as a publisher, Atari was not in the same league as the likes of EA, Ubisoft and Activision – the latter a publisher it had unsuccessfully tried to strangle at birth. As a result, the cash-strapped company began to pivot towards projects with lower budgets, and Atari's classic games finally came to the fore again as their timeless gameplay would provide ample inspiration for these releases. On the HD consoles, remakes of *Yar's Revenge*, *Star Raiders*, *Haunted House* and *Warlords* were released as download-only games, while *Centipede: Infestation* showed up on the Wii and 3DS.

» [PC] Great games like *Unreal Tournament 2004* were good for Atari, but not owning them outright ultimately hurt.

» [PC] *Alone In The Dark: Illumination* is typical of Atari's output around 2015, which was sadly not particularly brilliant.

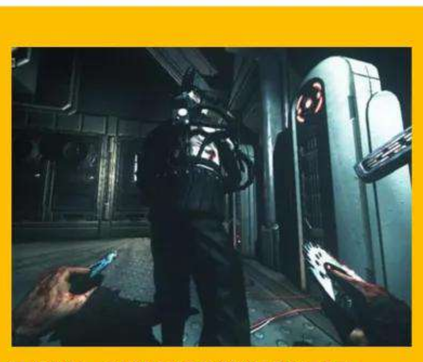
» Atari has regularly revisited its illustrious back catalogue. This 2001 release by emulation masters Digital Eclipse includes more than a dozen arcade classics.



THE WITCHER

2007 • PC

■ Long before Andrzej Sapkowski's fantasy novels had been adapted into a massively popular Netflix series, Atari introduced gamers to Geralt Of Rivia by bringing CD Projekt Red's videogame adaptation to the market. Sequels and spinoffs have since followed.



THE CHRONICLES OF RIDDICK: ASSAULT ON DARK ATHENA

2009 • VARIOUS

■ This first-person adventure wasn't just a solid follow-up to *The Chronicles Of Riddick: Escape From Butcher Bay*, but actually included a remaster of the cult Xbox hit. Atari rescued it when Activision dropped it.

WARLORDS

2012 • VARIOUS

■ This digital release is one of the best examples of Atari's pre-bankruptcy drive to reinvent its classics as downloadable games, building on the foundations of the multiplayer classic with new power-ups and a 3D facelift. It may look different, but the core gameplay remains intact.

YARS: RECHARGED

2022 • VARIOUS

■ The *Recharged* range boasts many fine titles and we especially enjoyed *Gravitar*, rather overlooked on its initial release in 1982, being revisited but this recent addition to the series is Wade's current favourite and who are we to argue? A great reboot of a true classic.

ATARI 50: THE ANNIVERSARY CELEBRATION

2022 • VARIOUS

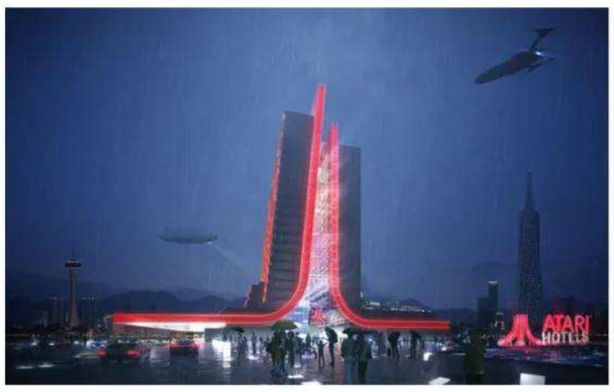
■ With over 51 years of games to draw from, this collection of over 100 titles not only includes the classics you'd expect, but a wealth of archive material, developer interviews and new games based on old IP.

THE ATARI VCS, REBORN

■ For retro gamers, the biggest selling point of the new Atari VCS, released in 2021, is the look – it closely resembles its Seventies forebear, woodgrain effect and all. Beneath that nostalgic exterior is a modern PC running a Linux-based operating system, meaning you can play games compatible with Windows 10 – though there are numerous other cheaper and more convenient ways to do this. It will also run many classic Atari titles, available to buy through its online store, and includes access to Antstream, meaning you can stream a vast range of old games. It's not cheap at $399 but if you paid over £200 for the Lego Atari 2600 set, perhaps you can justify the outlay for something that will undoubtedly look cool under your telly.

HAVE YOU STAYED ATARI TODAY?

■ One of the more unusual ventures announced by Atari in recent years was the Atari Hotels project. According to the announcement in 2020, the hotels were to offer a "unique hospitality experience inspired by, and built with, classic and modern video game culture in mind", with the facilities at the initial Las Vegas and Phoenix locations including retro-style arcades, themed restaurants and bars. Further locations in Dubai, Spain and Gibraltar were announced



in partnership with ICICB Group, but with Atari ending its partnerships with ICICB in April 2022, it appears as though anyone dreaming of staying in Room 2600 will have to put that particular fantasy on hold.

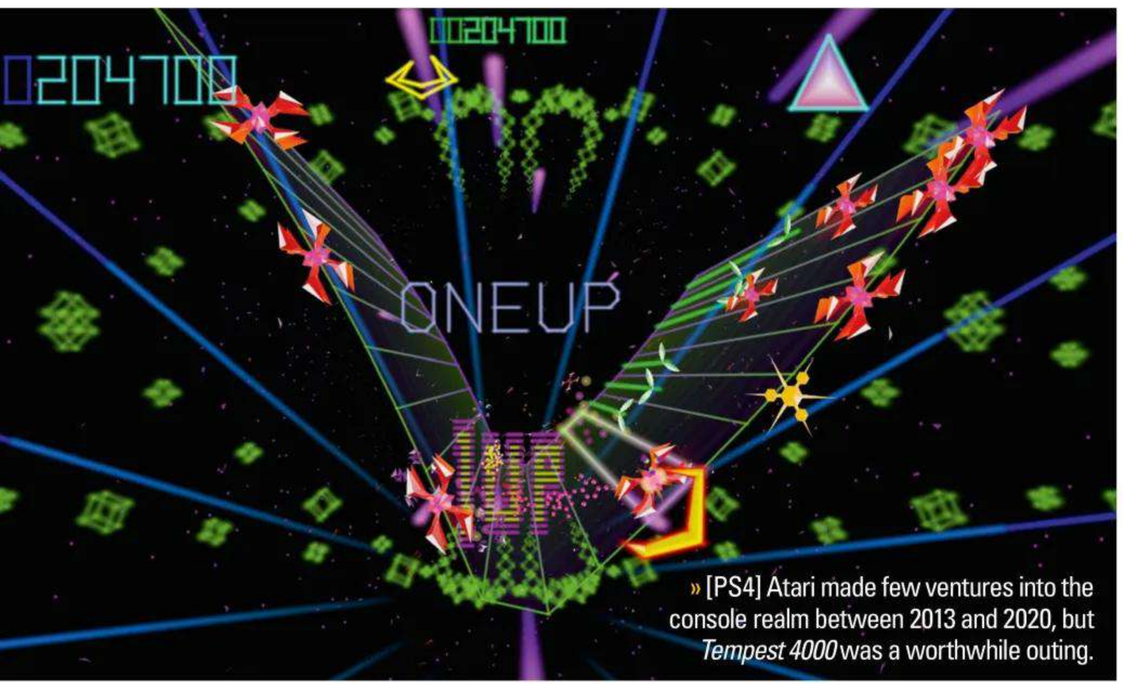
▶ This change in direction wasn't enough to turn around the debt-laden publisher, and in 2013 the company filed for bankruptcy. The Atari brand and its associated classic properties went up for auction for a comparatively low minimum bid of $15 million, with its most valuable single property being *RollerCoaster Tycoon*, which could be yours for a starting bid of $3.5 million. The entire *Battlezone* franchise started at $250,000, and was eventually bought by Rebellion. When Atari eventually emerged from bankruptcy under the leadership of Frédéric Chesnais, it had $34 million in debt, $1 million in revenue and employed just ten people.

His turnaround strategy saw the company pivot towards casino games, downloadable games, mobile games and brand licensing. Unfortunately, PC games like *Haunted House: Cryptic Graves*, *Alone In The Dark: Illumination* and *Rollercoaster Tycoon World* were released to extremely poor critical reception, while efforts in the console space were limited to some *Atari Flashback* compilations and *Tempest 4000*. Many of the company's mobile releases from this period, like *Foodgod's Food Truck Frenzy*, *Lunar Battle* and *Goon Squad*, have already disappeared from the market.

Despite this, by 2020 Atari was debt-free, had grown its revenues to over $20 million and become profitable. Some of this was down to the success of mobile games like *RollerCoaster Tycoon Touch*, which had 30 million downloads. This was also in part because the sale of assets continued throughout the decade, with many of its previously acquired properties such as *Test Drive* and *Alone In The Dark* eventually finding new homes. Atari's own legacy was left intact, but outside of the odd release like the unexpected mobile release of *Ninja Golf*, it still didn't feel like that legacy meant a great deal to its owners.

That has changed. "You have this amazing history and IP and we can look at it and say, 'What do we want to do that pays respect to the past but is innovative and new?'" enthuses Wade Rosen, who became Atari's CEO in April,

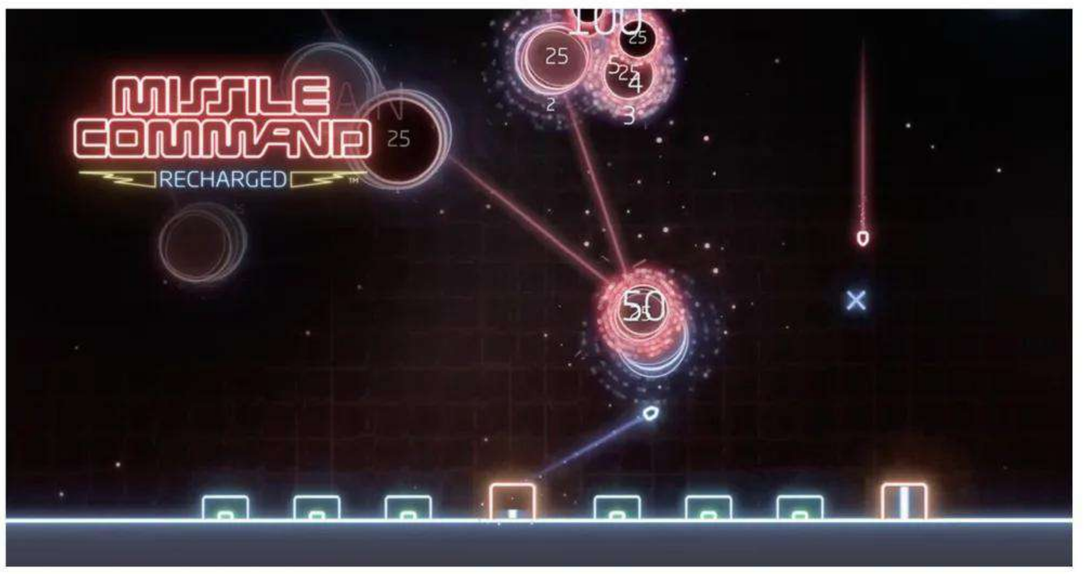
» [iOS] *RollerCoaster Tycoon Touch* is one of Atari's most successful mobile games, and has been active for five years now.



» [PS4] Atari made few ventures into the console realm between 2013 and 2020, but *Tempest 4000* was a worthwhile outing.

» [iOS] *Ninja Golf* was a surprising choice for a mobile remake, but it's actually fun and surprisingly faithful to the original concept.

» Atari's past and present together – Wade Rosen and Nolan Bushnell meet up in Malibu.



» [PC] *Missile Command: Recharged*, the first entry in the growing *Recharged* range, is a reimagining of Dave Theurer's original nuclear nightmare.

2021. "Can we make amazing games you can jump into instantly, that 'easy to learn, difficult to master' Atari ethos? Absolutely. Can we make innovative hardware that plays into that retro space? That's our hope."

Despite being born in 1985, Wade is a dedicated retro gamer. His office is adorned with a plethora of Atari titles and memorabilia, along with rows of Saturn and Dreamcast games, and there is a hulking old CRT television sat on his desk – and lying next to it is a copy of **Retro Gamer**. "I've been a subscriber for a long time. I love it. I've learned a lot from **Retro Gamer**."

Wade's introduction to Atari's rich history began in the early Nineties, when as a child he played *Centipede*, *Missile Command*, *Asteroids* and *Tempest*, pre-installed on the family PC. His love for those arcade classics has not dimmed and he speaks with real passion about Atari's *Recharged* range, how much he enjoys playing the recently updated *Yars' Revenge* and how he would like to see *Miner 2049er* given similar treatment. He also embraces how much the brand, crystallised in that enduring logo, means to gamers. "People have memories and emotions tied to Atari that predate me by decades," he says, "and that logo is iconic for a reason. It's easy to draw and instantly recognisable. It's beautiful, timeless and encapsulates what we want Atari to be – of the past but also of the future. Nostalgic futurism!"

For all his wide-eyed optimism about games, Wade is a seasoned realist when it comes to business, having gained a wealth of experience in numerous ventures, built on an impressive educational foundation. He acknowledges it would be naïve to think Atari can directly compete with the Xboxes and PlayStations of this world but senses there are always opportunities in the tech sphere. "We can be the best at the niches we play in," he says. "We can push innovation in certain areas of hardware and particularly with up-and-coming tech. Like VR – there are not so many established rules and the budgets haven't ballooned to hundreds of millions of dollars. Much of my background is in start-ups and people don't realise how much more in common Atari has with a small, rapidly growing tech company rather than a well-established brand. We're the oldest start-up!"

> "WE WANT ATARI TO BE OF THE PAST BUT ALSO OF THE FUTURE. NOSTALGIC FUTURISM!"
> **WADE ROSEN**

As this venerable company with a young man at its head celebrates its first 51 years, we end our conversation by looking far into the distance. We cheekily read out the advice offered to Wade by founder Nolan Bushnell, quoted in full at the start of this article, about trying to be 'revolutionary rather than evolutionary' and wonder if he agrees? "I do, on a fundamental level, but we do need to do some things that are evolutionary. That gives you a solid base and keeps the lights on, so everyone knows they can show up the next day and that's not always been the case with Atari," he says with a wry smile. "At the same time, though, you have to make revolutionary bets, and those are in the industries that are up and coming, where the rules are still being written."

So, does Wade think one day we might be marking Atari's 100th anniversary? And if so, what might we be celebrating? He pauses, perhaps mulling what the world and indeed himself might look like in 2072, and then a broad grin spreads across his face. "I'd love it if we were celebrating a company that had a successful second act. That would be amazing. The story of Atari is often 'the rise and fall' which isn't fair because lots of what Atari did post-1983 was incredibly innovative, particularly in the computer division and with the Lynx. But that arc of Atari… I'd love it if we looked back and saw this as the start of the next rise, the next wave. I hope I'm here for it, to see what Atari has become… though I hope I'm not still running it in 50 years. No one deserves that!" ✱

THE 80S

A DECADE OF INCREDIBLE GAMES

THE EIGHTIES WAS A TUMULTUOUS DECADE OF TECHNOLOGICAL TRIUMPHS AND PIONEERING CONCEPTS, AND AS A RESULT IT IS PERHAPS THE MOST-INTERESTING TEN YEARS IN GAMING HISTORY. JOIN US AS WE REMINISCE ABOUT THE REMARKABLE GAMES THAT WERE PRODUCED IN THIS GOLDEN ERA

WORDS BY NICK THORPE AND DARRAN JONES

If there is one thing that you can't accuse Retro Gamer of, it is wallowing in nostalgia. Oh, *alright then* – we're not exactly Luddites around here but as we're sure you will all know, we are sometimes partial to expressing the notion that, just maybe, they don't make them like they used to. But when it comes to the Eighties, doesn't that actually seem like a fair thing to say?

We're not just waving the retro flag for the sake of it, gaming really was different back then. For a start, there was the rapid pace of technological change. We went from monochrome machines with a single kilobyte of memory at the start of the decade, to the growing acceptance of polygon-pushing powerhouses in arcades at the end. Anyone gaming ten years ago could probably have imagined the games of today, but there was no chance that anyone growing up on *Pac-Man* could have realistically expected the likes of *Out Run* by the middle of the decade, let alone *Populous* at the end.

The level of professionalism was different too, as creatives and business folk alike tried to work out how to handle an emerging industry. While the indie spirit has returned to gaming in recent years, it's sobering to remember that as the business grew during the Nineties and beyond, we spent a long time with risk-averse publishers who wouldn't have touched something like *Skool Daze* or any of Llamasoft's more unusual fare. Nobody in the first half of the decade could have realistically foreseen the attempts by Nintendo and other console manufacturers to restrict what content gamers were exposed to.

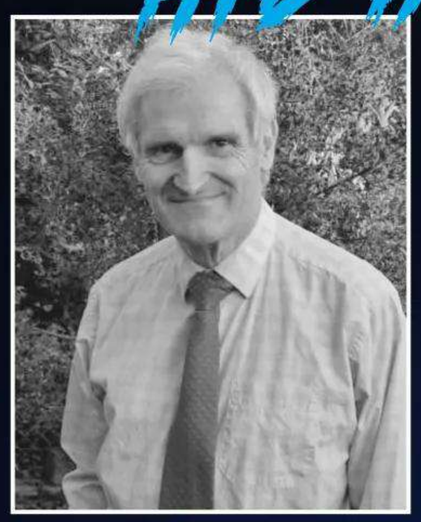
Of course, everything was also filtered through the lens of Eighties pop culture and current events. The Cold War was still at the forefront of people's minds, gory horror was in vogue as the video nasties made their way into our homes, and plenty of blockbuster movies made their mark too. There was even a little bit of political commentary at play, as the likes of *Wanted: Monty Mole* will prove.

But for all the technological, market and cultural forces at work, it was the games that made the decade so exciting to live through, and in this feature we'll be charting the course of the decade year by year with the focus on the software. Along the way, we'll examine the trends that swept the industry, as well as picking out the key games that shaped and reshaped our understanding of what our still-young hobby could offer us. So sit back, grab some Space Raiders and your fizzy drink of choice, and join us for a look back at a time when gaming really was different.

» [ZX Spectrum] Matthew Smith's *Jet Set Willy* made its way into many bedrooms during the Eighties.

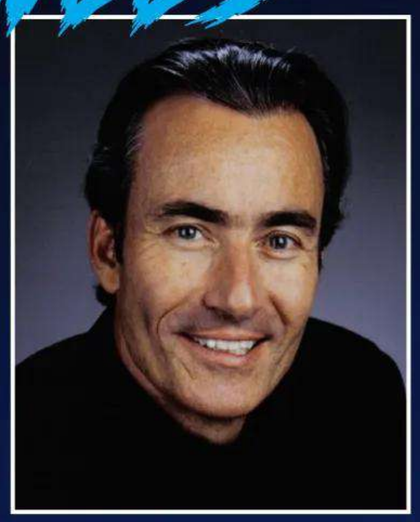
THE INTERVIEWEES

VAN BURNHAM
Author, *Supercade: A Visual History Of The Videogame Age*



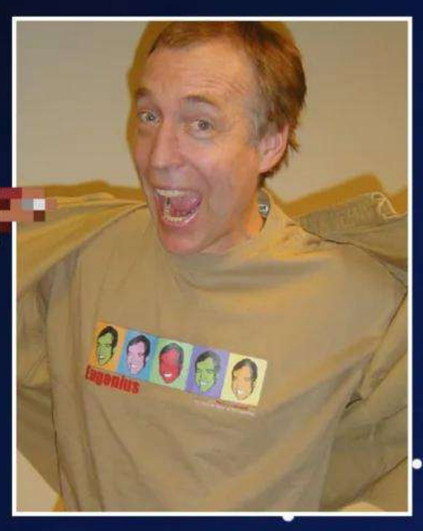
MALCOLM EVANS
Programmer, *3D Monster Maze, 3D Tunnel and more*

DAVID CRANE
Cofounder, Activision. Programmer, *Kaboom!, Ghostbusters* and more



TRIP HAWKINS
Founder, Electronic Arts. Founder, The 3DO Company. Entrepreneur

CHRIS WILD
Programmer, *The Lords Of Midnight* remakes, *Cyberwar* and more



EUGENE JARVIS
Programmer, *Defender, Robotron: 2084* and more

PHILIP OLIVER
Programmer, *Dizzy, Super Robin Hood* and more

TONY TAKOUSHI
Games journalist, *CVG, Big K* and more

JIM BAGLEY
Programmer, *Defender* (Game Boy), *Gutz* and more

1980

» [Arcade] Atari's *Battlezone* typified the militaristic themes of many games of its era.

» [Arcade] *Star Castle* was rather more abstract in its presentation of a shooting game.

To say that 1980 was a time of transition would be an understatement, as the gaming world was still adjusting to proper colour displays, cartridge-based games, computers in affluent homes and the first Game & Watches. One particular innovation that kicked the decade off with a bang was character, with Pac-Man and his ghostly pursuers making big waves simply for being something different to a car, tank or spaceship.

Elsewhere, Cold War paranoia still had a firm grip on the minds of many, as demonstrated by *Battlezone* – the vector tank combat game that was reworked into The Bradley Trainer for the US army. *Armor Attack* was another vector game with a distinctive military theme. Those two could at least function as a power fantasy, which is more than could be said for *Missile Command*.

Fortunately, more fanciful fare could be found elsewhere in the arcades, with driving being a popular choice. Namco used vehicles as a vehicle (pardon the wordplay) for a new maze game in the form of *Rally-X*, which allowed players the proactive option of smoking out pursuing cars to defend themselves. Data East's *Highway Chase* also did something odd with cars, using them as the basis for a shoot-'em-up game that had more in common with *Space Invaders* than something like *Monaco GP*. *Star Castle* dropped all of that stuff and went abstract, though shooting was still the order of the day thanks to games like *Phoenix* and *Berzerk*.

In the home, Atari's 2600 version of *Space Invaders* wasn't just the first licensed arcade game ever, but the first game to sell over a million copies. Meanwhile, projects from the Seventies were going professional, as the text adventure *Zork* came off the mainframes and was given a full release as *Zork I* by the noted text adventure publisher Infocom. Graphic adventures such as *Mystery House* also started to appear courtesy of studios like On-Line Systems.

ADVENTURE

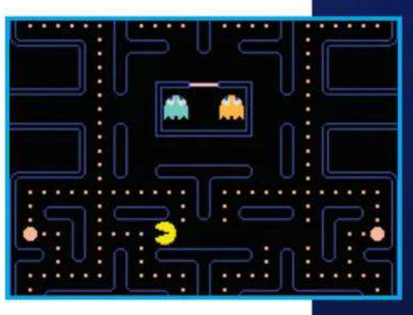
DEVELOPER: ATARI INC

When Warren Robinett sent players on a quest to recover a magical chalice from dangerous dragons, he unknowingly created the DNA that would seep into all later action-based adventure games.

PAC-MAN

DEVELOPER: NAMCO

Clever programming of *Pac-Man*'s ghost antagonists and compulsive play mechanics turned it into a world-wide smash. Pac-Man is arguably gaming's first recognisable icon, and he is still going strong today.



MISSILE COMMAND

DEVELOPER: ATARI INC

Dave Theurer's game may have been fuelled by Cold War nightmares, but it delivered intense blasting thrills and highlighted just how useful a trackball was if you wanted lightning-fast gameplay.

SPACE INVADERS

DEVELOPER: ATARI INC

It might not have been that authentic to look at, but Atari's ambitious conversion of Taito's coin-op hit was arguably the first example of a AAA console release and included loads of different game modes.

PHOENIX

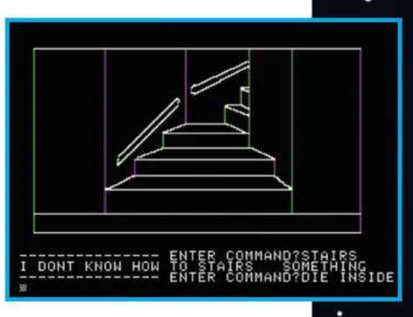
DEVELOPER: TAITO

Blessed with multi-stage gameplay, huge swooping birds and chaotic action, *Phoenix* certainly left an impression on gamers. Its impressively huge boss, while not the first of its kind, remains equally memorable.

MYSTERY HOUSE

DEVELOPER: ON-LINE SYSTEMS

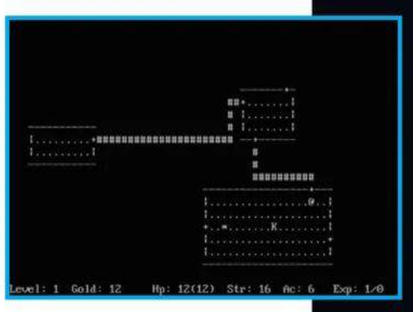
Text adventures were well-known to gamers by the late-Seventies, but Roberta Williams' horror-tinged classic added graphics to the mix and created a whole new genre when it appeared in 1980.



ROGUE

DEVELOPER: AI DESIGN

With its focus on exploring and permadeath being an ever-present threat, battling your way through *Rogue*'s hellish dungeons was equally thrilling and terrifying. The roguelike genre began here.



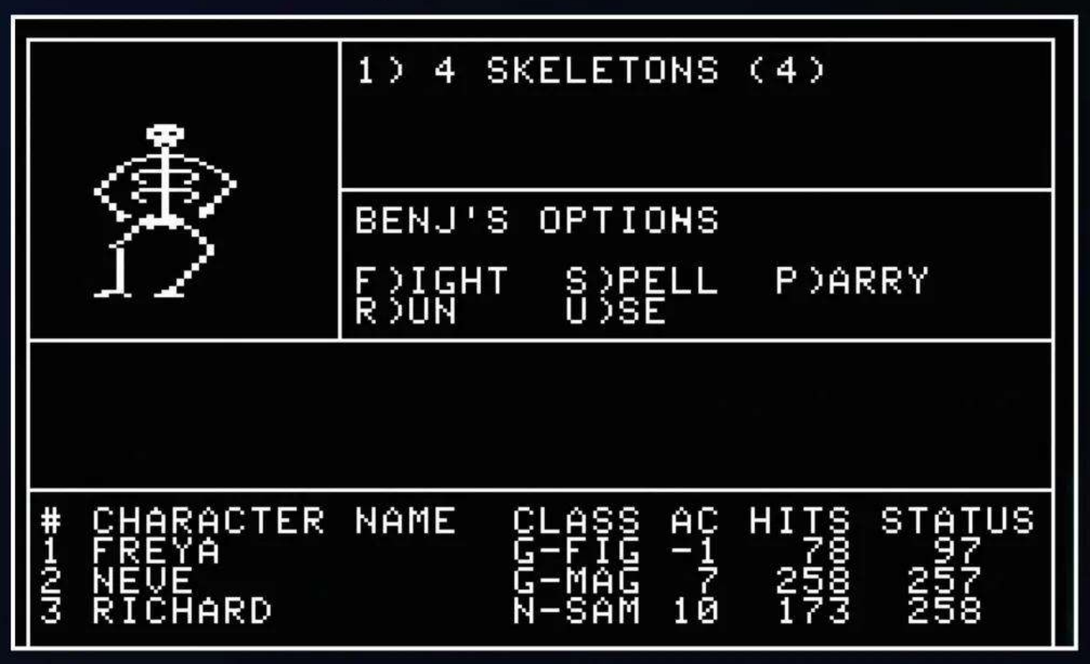
STAR RAIDERS

DEVELOPER: ATARI INC

Doug Neubauer's hectic space combat sim felt ahead of the curve when it debuted on Atari's 8-bit micros. It proves just how capable home computers could be in the right hands and delivered arcade-like thrills.

VAN BURNHAM ON PAC-MAN

"1980. It was a year that defined a paradigm shift that forever changed tech and pop culture. CNN, Rubik's Cube, and – most important – *Pac-Man* debuted that year. Namco's oddly addictive maze game hit and hit hard, quickly positioning itself as the most-important game of the 20th century. Nobody was immune to its hypnotic blue haze as players of every age, gender and profession filled game rooms to maximum capacity. This era was an incalculable influence on me and still informs my work and career, leading me to write the original *Supercade* and inspiring myriad projects since."


1) 4 SKELETONS (4)
BENJ'S OPTIONS
F)IGHT S)PELL P)ARRY
R)UN U)SE
CHARACTER NAME CLASS AC HITS STATUS
1 FREYA G-FIG -1 78 97
2 NEVE G-MAG 7 258 257
3 RICHARD N-SAM 10 173 258

» [Apple II] *Wizardry* pushed home-computer RPGs forward with party-based gameplay, and spawned seven sequels.

1981

The popularity of shoot-'em-ups showed no sign of fading in 1981, as the genre continued to evolve. *Defender* introduced bi-directional scrolling stages that responded to your movement, *Galaga*'s clever enemies could steal your ships, and the varied sections of *Gorf* and *Vanguard* also made their mark on the genre, as did Atari's *Centipede*. *Tempest* was a highly exciting new concept too, helped by its colour vector graphics and unusual tunnel format. But arcade maze games were the hot new trend in the wake of *Pac-Man*'s success. The likes of *Mouse Trap* and *Lock 'N' Chase* allowed you to reconfigure the maze as a means of defending yourself, while *Crush Roller* added complexity with underpass and overpass sections.

Elsewhere in the world of coin-op games, Sega's *Turbo* raced to the front of the driving pack with detailed graphics and frequently changing scenery. SNK's *Fantasy* allowed players to continue after losing all of their lives, which was useful in allowing everyone to see its diverse range of challenges – for a price, of course. *Qix* tasked players with boxing-out areas of the screen, while *Donkey Kong* was a huge hit for Nintendo.

Atari 2600 owners were mostly happy to buy arcade conversions, and with games like *Asteroids* and *Missile Command* arriving at home that's understandable, but *Warlords* offered a four-player take on *Breakout* that became an instant classic. Activision's first really great games, the bomb-catching *Kaboom!* and the simple but excellent *Ice Hockey*, also hit the market this year. For cheaper home gaming, Grandstand's popular dedicated VFD shoot-'em-up *Astro Wars* was a must have.

On the home computers, it was a great year for RPGs – as well as *Ultima*'s debut, Sir-Tech's *Wizardry* added some graphical sophistication to the genre and would go on to become highly influential in Japan. The arrival of more affordable computers like the Commodore VIC-20 and Sinclair ZX81 brought more systems into homes, with early hits including arcade clones like the *Pac-Man* clone *Jelly Monsters* and a cut back rendition of *Frogger*. However, more original concepts like *3D Defender* and *3D Monster Maze* helped to show the potential of home-grown games. ▶

» [Arcade] It was a fiercely competitive year for shoot-'em-up developers, but Namco's *Galaga* certainly stood out.

MALCOLM EVANS ON EARLY COMPUTING

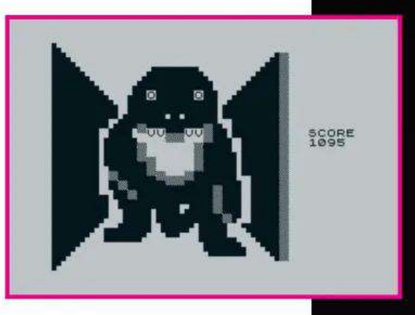
"It was a time for innovation. The ZX81 was born, inviting young minds to play basic games, and, from its manual learn the new language that gave their computer life. We stretched its capabilities to the limit. Even its crude graphics were no restraint to invention.

In bedrooms, ideas bubbled, spawning not only new games but genres of games, inspiring their virgin audience. It was a roller-coaster ride for many young and old boys' ambitions."

3D MONSTER MAZE

DEVELOPER: NEW GENERATION SOFTWARE

■ Cleverly coded by Malcolm Evans, this ZX81 hit stuck you in a maze with a ferocious T-rex and dared you to make it out in one piece. It proved that even carefully assembled ASCII characters could be scary.



DONKEY KONG

DEVELOPER: NINTENDO R&D1

■ Shigeru Miyamoto struck gold with *Donkey Kong*, delivering a brilliant platform game that made world-wide stars out of its protagonist and antagonist. It remains a huge hit with high-score players to this day.

ULTIMA

DEVELOPER: ORIGIN SYSTEMS

■ Richard Garriott's *Ultima* may seem crude by today's standards, but this engaging RPG offered a level of exploration and character development that few other games of the time could match.

SCRAMBLE

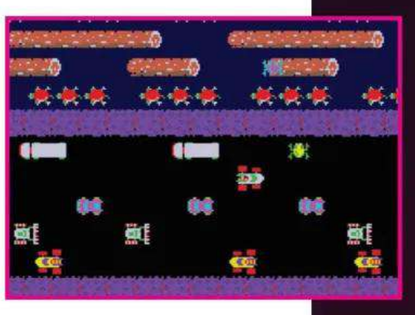
DEVELOPER: KONAMI

■ Konami's space shmup is notable for many reasons. It introduces forced-scrolling stages, variation within its continuous levels and requires you to bomb fuel tanks so you can continue your epic quest.

FROGGER

DEVELOPER: KONAMI

■ We'd argue *Frogger*'s success is due to its simplicity. Its distinctive theme meant it was instantly familiar to anyone, while its frantic nature made it impossible to just play once. It's still hopping around today.



CASTLE WOLFENSTEIN

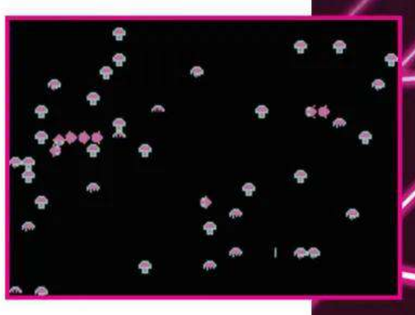
DEVELOPER: MUSE SOFTWARE

■ *Castle Wolfenstein*'s World War II setting, clever exploration and subtle stealth elements mesmerised the likes of John Carmack and John Romero. *Doom* certainly wouldn't exist without it.

CENTIPEDE

DEVELOPER: ATARI INC

■ With countless shooting games set in space, punishing pastel-coloured insects in a garden felt incredibly fresh. Like *Mystery House*, Dona Bailey's game is notable for highlighting early women coders.



UTOPIA

DEVELOPER: MATTEL ELECTRONICS

■ Don Daglow's inventive strategy gem arguably helped lay the groundwork for real-time strategy games and city-building games like *SimCity*, and proved that console games could offer plenty of depth.

» [Arcade] The cute enemies of *Dig Dug* ended up becoming minor mascots for Namco.

1982

This was the year that third-party publishers really made their mark on the console world, with a glut of games flooding the market. There were some great ones to be found, though – Activision's contributions included Carol Shaw's brilliant shooter *River Raid*, the biplane dodge-'em-up *Barnstorming* and the excellent *Pitfall!*, while Imagic gave us the innovative Intellivision game *Microsurgeon* and the smash hit shooter *Demon Attack*. Parker Brothers didn't have those original concepts, but it had some real licensing might and brought games like *Frogger* and *Star Wars: The Empire Strikes Back* to market.

Not to be outdone, the console manufacturers leaned heavily on licensed games to sell their machines. GCE's newly released Vectrex offered the likes of *Berzerk* and *Scramble*, while the ColecoVision had a great launch on the strength of games like *Zaxxon*, *Turbo* and the pack-in *Donkey Kong*. The underwhelming conversion of *Pac-Man* for the Atari 2600 sold extremely well, but the movie tie-in *ET: The Extra-Terrestrial* quickly became notorious for its poor gameplay, saddling it with the infamy of becoming a byword for bad games. *Yars' Revenge* (by *ET*'s Howard Scott Warshaw) was rather better for Atari's machine, eventually becoming its best-selling original 2600 game.

Cute games like *Ms Pac-Man* had well and truly caught on in arcades by this point – *Dig Dug* and *Mr Do!* were very similar games in allowing players to create their own mazes via tunnelling, but *Q*bert* was a totally different experience and managed to stand out thanks to its interesting perspective and swearing main character. In terms of technical innovations, *Zaxxon*'s isometric perspective gave the shoot-'em-up a proper third dimension for the first time.

In the home, *Choplifter!* made its Apple II debut and proved extremely popular, while *The Hobbit* and *Miner 2049er* also found success. In Japan, the enduring box-pushing puzzler *Sokoban* launched for the NEC PC-8801 and would be widely ported and exported through the decade, while Koei's *The Dragon And Princess* was an early example of the Japanese RPG format. Back home we were enjoying the likes of *Mazogs* on the ZX81, but new machines like the Commodore 64 and ZX Spectrum would soon usurp Sir Clive's monochrome marvel.

THE HOBBIT

DEVELOPER: BEAM SOFTWARE

Text adventures had been popular long before *The Hobbit* was conceived, but its solid adaptation of Tolkien's work and its delightful visuals meant many developers soon copied its distinctive style.

PITFALL!

DEVELOPER: Activision

David Crane's inventive platformer was a smash-hit for Activision on the Atari 2600 and one of its best-selling games. Pitfall Harry's adventure formed the blueprints for an entire genre going forward, which isn't bad at all.

POLE POSITION

DEVELOPER: Namco

Racing games certainly weren't uncommon before *Pole Position* hit the arcades, but Namco's fast-paced game pushed the genre in exciting new directions. For many, the arcade racer started here.

ROBOTRON: 2084

DEVELOPER: Vid Kidz

Developers love Eugene Jarvis' twin-stick shooter and it's a favourite Desert Island Disks request. It's not original, but it is an intense adrenaline-fuelled blaster that remains insanely thrilling to play.

FOOTBALL MANAGER

DEVELOPER: Kevin Toms

When *Football Manager* appeared on home computers it set itself apart from its peers by prominently featuring its designer on the box and other advertising, as well as focussing on the management of your team.

XEVIOUS

DEVELOPER: Namco

Few shmups are as instrumental as Namco's blaster for establishing the vertically scrolling shooter. A rich backstory, interesting combat mechanics and continuously playing music all add to its significance.

MINER 2049ER

DEVELOPER: Big Five Software

Bill Hogue came up with *Miner 2049er* when single-screen platformers were rife. He made his game stand out by using multiple levels and letting you traverse each stage using different methods.

MICROSOFT FLIGHT SIMULATOR

DEVELOPER: Microsoft

Bruce Artwick built upon his early Apple II flight simulator and added enhanced visuals, weather variables, and much more, reinventing the newly evolving genre in the process.

DAVID CRANE ON ACTIVISION'S IMPACT

"Largely a result of Activision's founding, the Eighties were a great time to be a gamer with an explosion of games. Internally, we were driven to stay ahead of the competition, and we were limited only to our collective imaginations.

For me, *Pitfall!* was the culmination of expansive gameplay on the 2600 – a player could only imagine what he might experience on the next screen. I am proud that people still remember *Pitfall!* with fondness more than 40 years later."

» [ZX Spectrum] Matthew Smith's platformer *Manic Miner* was a truly iconic game from the early Spectrum days.

» [Arcade] After all these years, Konami's arcade blaster *Gyruss* has lost none of its intensity.

1983

While this year is infamous for being the focus of a massive North American market recession that killed many consoles before their time, the cheap home computers that arrived in 1982 meant that things weren't all doom and gloom. The ZX Spectrum provided a home for plenty of new games developed in the UK. Matthew Smith's platformer *Manic Miner* captured the imaginations of many players, Ultimate made a name for itself with *Jetpac* and *Atic Atac*, and *Deathchase* was particularly thrilling. The Commodore 64 became popular internationally and had some superb games too. *Beach Head* allowed players to fight World War II battles on multiple fronts, *Forbidden Forest* gave players an early taste of horror and *International Soccer* was a strong representation of the beautiful game. Compilations like *Cassette 50* started to become popular too.

Big things were going down in Japan's computer scene as well, with plenty of foundational releases such as *Nobunaga's Ambition*, the first of Koei's historical war simulation games. *The Portopia Serial Murder Case* set the stage for Japanese adventure games and visual novels, *Bokosuka Wars* would go on to influence real-time strategy and strategy-RPGs, and the maze favourite *Bomberman* arrived on the MSX.

In North America, publishers like Electronic Arts that embraced the home-computer scene ended up doing well. It released its first games in 1983, including *MULE*, *Pinball Construction Set* and the chess-style strategy game *Archon*, and soon released *One On One: Dr J Vs Larry Bird* – its first foray into the licensed sports game field it would eventually dominate. Doug Smith's frantic gold rush platformer *Lode Runner* gained international acclaim too.

The old guard wasn't completely washed away though – Activision's racer *Enduro* and *The Activision Decathlon* showed that there was still fun to be had with Atari's 2600. The industry decline also hit the arcades, despite the novelty of laserdisc games like *Fire Fox*, *Astron Belt* and of course *Dragon's Lair*. Novel concepts like the bar-room action game *Tapper*, strong blasters like *Gyruss* and *Spy Hunter* and the movie might of *Star Wars* couldn't halt a decline in revenues, but were thoroughly entertaining regardless.

TRIP HAWKINS ON EA'S EARLY DAYS

"The industry's minds were boggled by the originality, quality and scope of our first flight of games. Bill Budge was the linchpin of my idea of software artists, and I loved the creativity and 'learn by doing' themes represented in *Pinball Construction Set*. From the beginning I cared about social gaming and it was very important to me that *Archon* and *MULE* were multiplayer games. But while we knew we had potential, we needed more games on more platforms to grow our revenue so we could survive."

GAMING GREATS

DRAGON'S LAIR

DEVELOPER: ADVANCED MICROCOMPUTER SYSTEMS

Powered by Laserdisc technology and Don Bluth's lush animation, *Dragon's Lair* delivered a unique arcade experience that would form the basis for QTE scenes in games like *Shenmue*.

STAR WARS

DEVELOPER: ATARI INC

Atari's dramatisation of *Star Wars'* trench run proved that cutting-edge coin-op technology was perfectly capable of replicating the thrills and spills of hit movies and creating smash hits in the process.

JETPAC

DEVELOPER: ULTIMATE PLAY THE GAME

The sheer intensity and pace of Ultimate's first game meant that it almost felt like a lost arcade game, and yet here it was, running on a humble Spectrum. It felt like witchcraft in 1983.

TRACK & FIELD

DEVELOPER: KONAMI

While *The Activision Decathlon* hit first, Konami's own multi-event sports game ended up going the distance thanks to its impressive animation, humorous graphics and finely crafted game mechanics across six fun events.

GRANNY'S GARDEN

DEVELOPER: 4MATION

The introduction of BBC Micros in British schools led to a huge influx in educational software. While American school kids tackled an updated *Oregon Trail*, we navigated this clever adventure.

ANT ATTACK

DEVELOPER: SANDY WHITE

Sandy White's beautifully abstract game brought the exciting isometric worlds of arcades to home computers and let you star as either a male or female protagonist as you navigated the abstract city of Antescher.

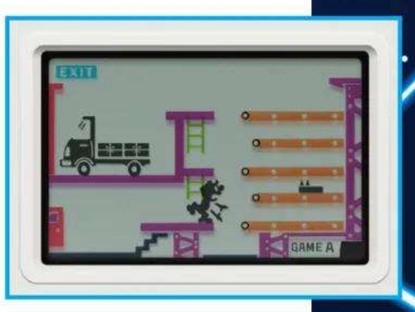
MULE

DEVELOPER: OZARK SOFTSCAPE

Electronic Arts' superb strategy game was cleverly designed around four players, featured complex risk vs reward mechanics and neatly encouraged both competition and co-operation in order for players to succeed.

MARIO BROS

DEVELOPER: NINTENDO

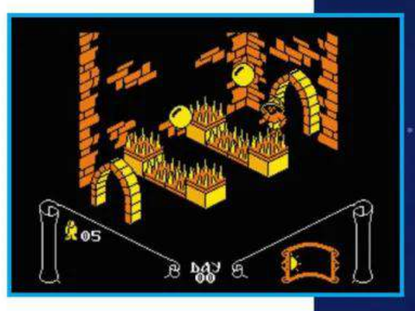


Nintendo's Game & Watch series seemed to be a staple of every playground by 1983. *Mario Bros* is one of the more memorable releases, complete with a lovely clamshell design.

KNIGHT LORE

DEVELOPER: ULTIMATE PLAY THE GAME

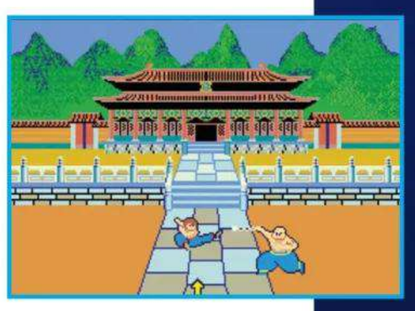
Ultimate's ambitious sequel to *Sabre Wulf* continued the exciting adventures of Sabreman and pushed the visuals and gameplay of isometric games on home computers to the absolute limit.



YIE AR KUNG-FU

DEVELOPER: KONAMI

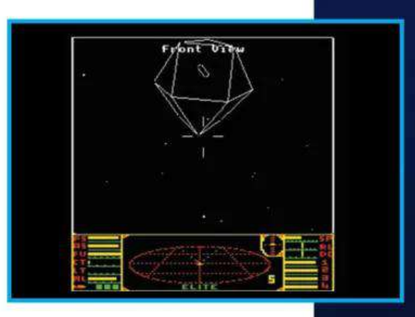
Konami's one-on-one fighter may have featured similar controls to earlier brawlers, but its use of energy bars, weapon-carrying combatants and female fighters certainly made it stand out from its peers.



ELITE

DEVELOPER: DAVID BRABEN/IAN BELL

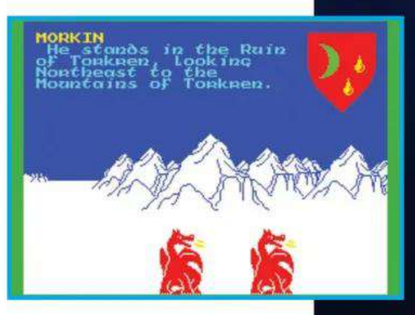
Few games highlight the grand designs of home computers like *Elite* does. Choice in David Braben and Ian Bell's game was absolute and its open-ended gameplay felt revolutionary at the time.



THE LORDS OF MIDNIGHT

DEVELOPER: MIKE SINGLETON

Mike Singleton was a clever coder who wouldn't be restrained by the paltry 48K offered by the ZX Spectrum. The result is a masterclass in hybrid game design.



JET SET WILLY

DEVELOPER: SOFTWARE PROJECTS

As ambitious as it was bug-ridden, Matthew Smith's ginormous follow-up to *Manic Miner* cemented him as a rising star and gave excited players a huge (often-copied) mansion to explore.

KUNG-FU MASTER

DEVELOPER: IREM

Irem's hard-hitting brawler helped establish the side-scrolling beat-'em-up and saw hero Thomas battling a variety of different bosses and numerous henchmen in his quest to rescue his girlfriend Sylvia.

KING'S QUEST

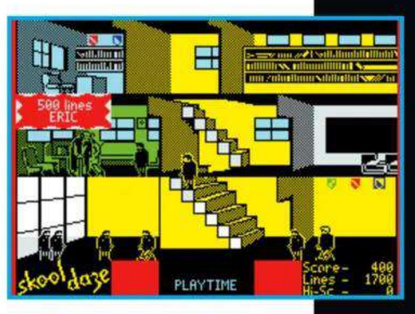
DEVELOPER: SIERRA ON-LINE

Roberta Williams was once again on hand to help with the next evolutionary leap for graphic adventures, adding animation, depth perspective and other tricks to create an exciting quest like no other.

SKOOL DAZE

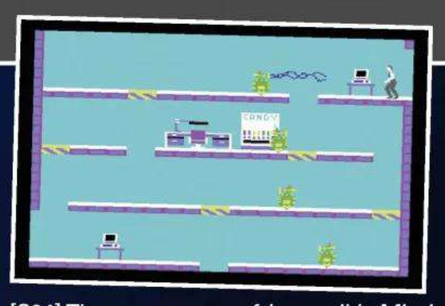
DEVELOPER: DAVID REIDY/HELEN REIDY

This excellent game was not only a superb example of how everyday locations could be turned into new gaming experiences, but also offered a hint of sandbox-style gaming. It's also a setting we can all relate to.



» [Atari 8-bit] Everybody really was kung fu fighting in 1984, at least in the world of games.

1984



» [C64] The many rooms of *Impossible Mission* were daunting places for any player to explore.

The proliferation and openness of home computers really bore fruit this year, as developers explored all kinds of delightfully unusual concepts and deep gameplay models. The size of games really opened up with big adventures like *Impossible Mission*, *Elite and Jet Set Willy*, and big stages in games like *Boulder Dash*. Characters like Jeff Minter – who else? – could give us the games with names like *Revenge Of The Mutant Camels* and *Sheep In Space*, which you just wouldn't see on shelves today. We even ended up with actively political games like *Wanted: Monty Mole*, which touched on the controversial miners' strike.

You could even see these new design sensibilities in licensed games like *Ghostbusters*. What could have been a simple action game offered a variety of gameplay elements, from driving to ghost capture and even some financial management. Another trend was a focus on fighting – Jordan Mechner's *Karateka* looked astonishing and *Bruce Lee*, an action-packed game that originated on the Atari 8-bits, soon kicked its way to other formats. Epyx's *Summer Games* also made its debut.

With the American arcade business in a slump, Japanese manufacturers really came to the fore in 1984. Data East, Konami and Irem innovated with *Karate Champ, Yie Ar Kung-Fu* and *Kung-Fu Master* respectively, while Nintendo came out swinging with *Punch-Out!!*. That wasn't all it had to offer as *Duck Hunt* jumped from the Famicom to the arcade too. Capcom made its presence felt with its World War II shooter *1942*, Tehkan's *Bomb Jack* also launched with a bang and Pac-Man found himself in platform action in *Pac-Land*. From the American side of things, Atari Games offered a rare bright moment with the surreal obstacle course *Marble Madness* designed by Mark Cerny.

Though Activision's *HERO* was a worthwhile addition to the Atari 2600 library, console action was largely limited to Japan where Nintendo was building out the Famicom's line-up with games like *Ice Climber* and *Balloon Fight*. In the Japanese home-computer scene, RPGs continued to gain popularity as Falcom's *Dragon Slayer* helped to codify action RPGs and *Hydlide* added to it soon after. But the most addictive computer game of the year originated in the Soviet Union – Alexey Pajitnov's *Tetris*.

CHRIS WILD ON THE HOME COMPUTER REVOLUTION

"I don't think I owned my own Spectrum in 1984, but I was definitely using my brother's, hooked on playing *The Lords Of Midnight*, and anything by my idols the Stampers at Ultimate. When you look at the games released in that year, you can see the quick advancement of quality and technique as developers felt their way around the edges of what the Spectrum could achieve; quickly iterating code, design, and art, creating new genres and moving the only slightly older ones forward."

» [Arcade] *Gradius* – or *Nemesis*, if you prefer – would become an iconic entry in the shoot-'em-up canon.

1985

If there's one thing that people love, it's a bit of novelty, and this turned out to be an excellent way to get people back into arcades. *Hang-On* gave players a full-body experience with a massive motorbike that had to be tilted for control, straddling the line between videogame and fairground ride. The racer's success inspired plenty of similar games from many companies through the rest of the decade, including Sega's own *Space Harrier* later in the year.

Regular old games weren't done though, as a number of genres were taken to new heights this year – or new heights of difficulty in the case of platform games, as *Ghosts 'N Goblins* was tougher than a two-dollar steak. *Gradius* offered a novel power-up system and some fascinating shoot-'em-up stage design, while *TwinBee* swapped military and space themes for something altogether cuter. Konami didn't just have those up its sleeves, as *Green Beret* was to sideways scrolling run-and-guns what *Commando* was to overhead ones.

Back on home computers, *Rescue On Fractalus* drew praise for its smooth flight, as well as the unexpectedly terrifying moments when downed friendly pilots aren't friendly at all. *The Way Of The Exploding Fist* set a new standard for one-on-one fighting games in the home with its varied moves, *Paradroid*'s robot-capturing captivated C64 owners and *The Bard's Tale* let players explore the town of Skara Brae.

Julian Gollop also came to prominence with *Chaos: The Battle Of Wizards*, a superb game of tactics based on his earlier tabletop game design. Mastertronic's *Finders Keepers* proved that budget games could be worth your time, while hit compilations like *They Sold A Million* and *Soft Aid* offered value by bundling established favourites together, though arcade conversions like *Commando* ultimately dominated sales. 1985 was also the year 16-bit systems like the Atari ST and Amiga debuted.

Over in the USA, Nintendo convinced New York retailers to stock its test launch of the NES – a machine that would surely sell on the strength of the toy robot ROB and games like *Gyromite*, since regular home videogames were clearly a faded fad. *Super Mario Bros* would ultimately prove that theory slightly wrong. ▶

» [C64] *The Way Of The Exploding Fist* was the UK's best-selling game of the year.

EUGENE JARVIS ON REJUVENATING ARCADES

"How do you fight *Super Mario* with the same old generic button and joystick platformer? The answer is you don't. You go for more immersion with custom-input controllers like *Hang-On*'s or *Paperboy*'s handlebar/throttles. Then pump up the output action with motion actuators, bigger and higher-res screens, and bass-pumping sound systems. For players of the era this new, more immersive experience was pure crack, and you couldn't get it at home. The same thing still works in 2023's arcades!"

DEFINING GAMES

SPACE HARRIER

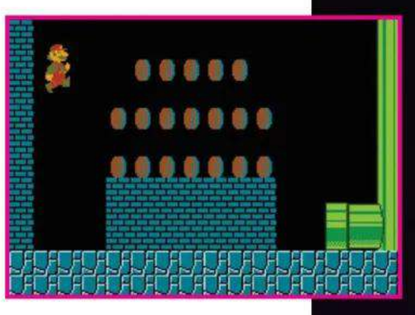
DEVELOPER: SEGA AM2

■ Yu Suzuki's outrageously fast follow-up to his *Hang-On* games pushed Sega's super-scaler technology to its limits and offered a mesmerising blaster that elevated hydraulic arcade design to new levels.

SUPER MARIO BROS

DEVELOPER: NINTENDO R&D4

■ If *Pitfall!* started the platformer template, then *Super Mario Bros* easily perfected it. It was a truly terrific calling card for the Famicom/NES and helped turn Mario into a global superstar.



GAUNTLET

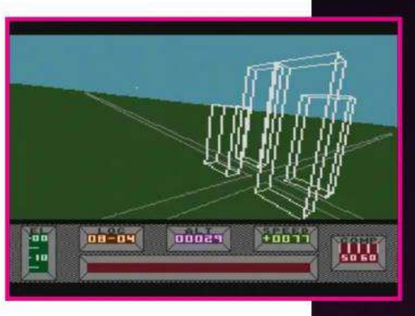
DEVELOPER: ATARI GAMES

■ Deviously designed to empty your wallet as quickly as possible, Ed Logg's supercharged take on *Dandy* featured four-player action, dangerous mazes, deadly monsters and insane amounts of speech.

MERCENARY

DEVELOPER: NOVAGEN SOFTWARE

■ While it shares traits with *Elite*, Novagen's *Mercenary* is very much its own game, creating a seemingly living, breathing world of treachery and intrigue that few other games of the time could emulate.



PAPERBOY

DEVELOPER: ATARI GAMES

■ With its bespoke bike handlebar controllers and instantly recognisable theme, Atari's *Paperboy* proved that a neat concept and interesting controls could turn even delivering papers into a world-wide hit.

COMMANDO

DEVELOPER: CAPCOM

■ Thematically rich and featuring a human protagonist, Capcom's fast-paced vertically scrolling blaster received a slew of copycat imitators but still managed to dominate both the arcade and home-computer charts.

LITTLE COMPUTER PEOPLE

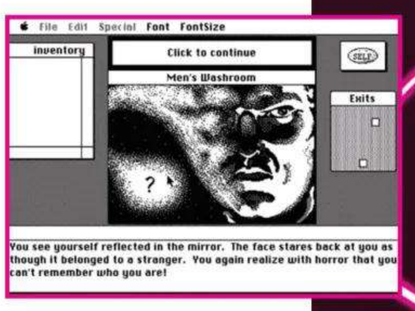
DEVELOPER: ACTIVISION

■ Social simulation games are huge today, but the likes of *The Sims* can be traced back to this charming effort where you acted as a custodian for a cute on-screen character.

DÉJÁ VU

DEVELOPER: ICOM SIMULATIONS

■ This early point-and-click adventure casts you as a private eye with a wonky memory. It's notable for its strong story, focus on lateral thinking and how it tackles memory degradation.


File Edit Special Font FontSize
inventory
Click to continue
Men's Washroom
Exits
You see yourself reflected in the mirror. The face stares back at you as though it belonged to a stranger. You again realize with horror that you can't remember who you are!

» [NES] *Castlevania* also continued the low-level trend for spooky games that was beginning to emerge.

» [Arcade] Wonder Boy's skateboarding helped him stand out from the platform crowd.

1986

This was a year in which the Japanese consoles really delivered the goods. Konami moved its *Goemon* series from arcade to Famicom this year and Enix's *Dragon Quest* set the template for Japanese RPGs of the future, but Nintendo's focus was on the Famicom Disk System, with *The Legend Of Zelda* serving as the add-on's flagship title. Later in the year, it offered platform games with increasingly elaborate structures. *Metroid*'s innovations are inescapable, and *Castlevania*'s accomplished horror action is famed for good reason. Not to be outdone, the Master System offered *Alex Kidd In Miracle World*, which added variety with shops and vehicles, as well as its unique rock-paper-scissors boss battles.

Platform games also had a good year in the arcade – as well as *Bubble Bobble*, *Wonder Boy* brightened up arcades while Namco's *Rolling Thunder* set a template for platform run-and-guns that would be copied in the future. Plenty of other games were set apart by interesting technical gimmicks, including the spinning cabinet of *WEC Le Mans 24*, the ultra-wide display of Taito's shmup *Darius* and the rotary joystick used to aim shots in SNK's *Ikari Warriors*.

Without such hardware trickery to rely on, home-computer games had to be conceptually inventive. *Alter Ego* was a thought-provoking social simulation in which your choice determined the outcome of your life, while the unusual puzzle gameplay of *The Sentinel* attracted much acclaim for Geoff Crammond. *Quazatron* brilliantly adapted *Paradroid* to the Spectrum's strengths, and *Spindizzy* provided more isometric excitement. *Jack The Nipper*'s encouragement of infant disobedience was also fantastic, and we're surprised the concept hasn't resurfaced in modern times.

There was room for more conventional concepts, too. *Leaderboard* was the best simulation of golf to date, *Shanghai* offered many thousands of players the chance to enjoy some mahjong solitaire, and *Cobra* turned a mediocre Sylvester Stallone film into a highly entertaining run-and-gun. *Defender Of The Crown*'s strategy gameplay was captivating, but it also highlighted the power of the Amiga with some extraordinary graphics – the 16-bit machines may have arrived in 1985, but the revolution was truly upon us all now.

PAUL OWENS ON ARCADE CONVERSIONS

"There were several attractions to arcade conversions with the primary being that the players will know the game from the arcade. We were able to install the arcade version in the office and given that for 8-bit, we would be unable to convert the whole game (lack of memory/time), having the game to play made it easier for the best elements to be cherry-picked. Graphics conversion to 8-bit was always an issue, but often we had the arcade supplier's help and were able to download the original graphics from the board."

TURBO ESPRIT

DEVELOPER: DURRELL SOFTWARE

Best described as a prototype *Grand Theft Auto*, Durrell Software's free-roaming driving game gave you four huge cities to explore and plenty of criminals to bust in whatever way you wanted.

OUT RUN

DEVELOPER: SEGA AM2

A trip across Europe inspired Yu Suzuki's game and proved that racing against the clock to toe-tapping tunes in beautiful locations could be just as exhilarating as racing other vehicles.

THE LEGEND OF ZELDA

DEVELOPER: NINTENDO R&D4

Crafted from Shigeru Miyamoto's love of exploration, Link's first Famicom/NES adventure would not only influence later games in the series but also arguably help inspire later action RPGs as well.

STARFLIGHT

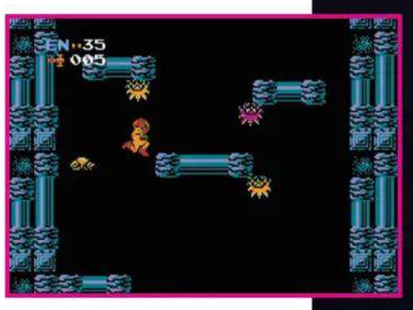
DEVELOPER: BINARY SYSTEMS

Binary Systems' epic space game merged one-on-one shooting with thoughtful resource gathering and diplomacy and a rich lore of fascinating alien cultures to create absorbing sandbox-style gameplay.

METROID

DEVELOPER: NINTENDO R&D1

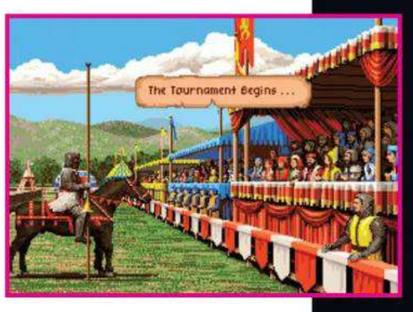
While *The Sacred Armour Of Antiriad* featured similar game mechanics and a focus on gated exploration, Nintendo's game became the benchmark that all similar games would be judged against.



DEFENDER OF THE CROWN

DEVELOPER: CINEMAWARE

It also came out on the 8-bit computers, but Cinemaware's game was instrumental in highlighting the power of 16-bit systems, thanks to its cinema-like presentation.



BUBBLE BOBBLE

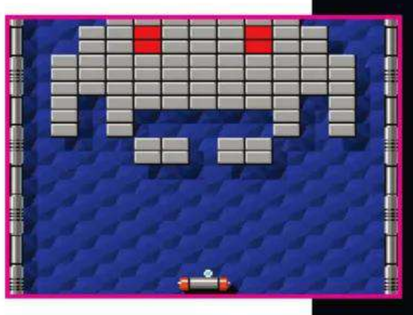
DEVELOPER: TAITO

Cute games weren't rare before *Bubble Bobble*, but rarely were they this fun and charming. A stunning two-player mode, a bouncy tune and myriad secrets made it a hit, and led to its 1987 sequel *Rainbow Islands*.

ARKANOID

DEVELOPER: TAITO

Thanks to eye-catching wall designs, annoying enemies and varied power-ups, Taito's *Arkanoid* revitalised a genre that had died off with *Super Breakout* and spawned countless copycat clones in its wake.



» [C64] *The Last Ninja* was a big hit thanks to its great looks and sharp gameplay.

» [Arcade] Running and gunning through side-scrolling stages wasn't all you could do in Konami's *Contra*.

1987

Much of the hardware on the market was mature by 1987, meaning that for the most part the dominant theme of the year was making the most of that hardware – and this yielded some brilliant results. *The Last Ninja* was at once beautiful and expansive, *Driller* offered proper 3D in the home and Archer Maclean managed to squeeze a third combatant into *IK+*. Extreme sports also hit the scene, with titles like *Skate Or Die* and *California Games*, while budget releases like *Feud* and *Dizzy* continued to thrive.

The same went for the NES, already four years old on a technical level but just arriving on UK shores. Nintendo's machine benefitted from the star power of *Mike Tyson's Punch-Out!!*, as well as the first entry in Capcom's long-running *Mega Man* series. In Japan, *Final Fantasy* arrived and carried on the RPG boom that *Dragon Quest* had inspired. The Master System was a little fresher, and alongside conversions such as *Out Run* and *After Burner*, offered players the *Metroid*-esque platform adventure *Zillion* and the brilliant science fiction-themed RPG *Phantasy Star*.

Arcade developers had to get inventive too. Konami spiced up *Contra*'s co-op running and gunning with perspective changes, while Atari Games added combat to the racing formula to create *RoadBlasters*. Capcom allowed you to feel the action of *Street Fighter* with its pressure-sensitive buttons, and Namco allowed operators to link its twin sit-down *Final Lap* cabinets for enormous eight-player races. Taking an alternative path, Sega just decided to do '*Rolling Thunder* but with ninjas' and struck gold with *Shinobi*, a less-flashy companion to games like *After Burner* and *Thunder Blade*.

It was a vintage year in the world of adventure games, with the excellent point-and-click *Maniac Mansion* joined by the likes of the lascivious *Leisure Suit Larry*, the law-abiding *Police Quest*, *Space Quest II* and *Shadowgate*. These games were typically the preserve of 16-bit computer owners, who would also have likely been enjoying the rather tasty first-person *Dungeon Master* if they happened to be Atari ST owners. The future was 16-bit, and it was approaching fast. ▶

PHILIP OLIVER ON BUDGET GAMES

"Creating budget games in 1987 was fun for us as we'd developed a really slick development pipeline and had mastered making games on Amstrad and Spectrum. We'd challenged ourselves to make each game in a month, by taking code from previous games and reworking them to present the players with something new and original. *Dizzy* was developed from *Ghost Hunters* (written a few months before and our first Spectrum game), by adding puzzles inspired by our love of playing text adventures and setting it in a cartoon fantasy world."

RUNNING GAMES

DOUBLE DRAGON

DEVELOPER: TECHNOS JAPAN

Yoshihisa Kishimoto's game built on his earlier *Kunio-kun* brawlers and redefined the side-scrolling beat-'em-up thanks to its dynamic combat, assorted weaponry, two-player action and urbanised scrolling stages.

R-TYPE

DEVELOPER: IREM

Famed for its memorable charge shot, iconic bosses, high difficulty factor and distinctive biomechanical aesthetic, Irem's game took the shmup genre in exciting new directions and spawned countless imitators.

BARBARIAN

DEVELOPER: PALACE SOFTWARE

Many will remember *that* cover, but it's the exciting sword-based gameplay and brutal decapitations that helped *Barbarian* prove that home-computer fighting games could be every bit as good as their arcade counterparts.

DUNGEON MASTER

DEVELOPER: FTL GAMES

FTL Games' dungeon crawler created a fertile formula for others to copy thanks to its exciting real-time combat, gruesome monsters, clever dungeon design and the ability to manipulate the environment.

HEAD OVER HEELS

DEVELOPER: JON RITMAN

Fuelled by Bernie Drummond's surreal visuals, two unique playable characters and some exceptionally crafted puzzles, Jon Ritman's game proved isometric adventures still had exciting new avenues to explore.

MANIAC MANSION

DEVELOPER: LUCASFILM GAMES

While it wasn't the first point-and-click adventure, few of its peers have been as genre-pushing as *Maniac Mansion*. It also highlighted that games could be funny while they were crafting great stories.

PHANTASY STAR

DEVELOPER: SEGA R&D2

As other RPGs became mired in fantasy tropes, Sega's game reached for the stars and offered exciting new worlds to explore that were filled with engaging characters and fearsome monsters.

OPERATION WOLF

DEVELOPER: TAITO

Taito's gung-ho lightgun game may have riffed off the films of Schwarzenegger but allowed you to revel in a far higher body count than Arnie ever managed on the screen, all while wielding a replica Uzi.

ROBOCOP

DEVELOPER: OCEAN SOFTWARE

Platoon may have formed the basis of Ocean's multi-gameplay approach to film adaptations, but *RoboCop* perfected it, delivering a smash hit that many later film adaptations would attempt to copy.

JOHN MADDEN FOOTBALL

DEVELOPER: ELECTRONIC ARTS

While it lacked official licences, EA's game featured virtually every other aspect of the popular sport and would lay the foundations for countless sequels to come.

SUPER MARIO BROS 3

DEVELOPER: NINTENDO R&D4

Mario's third NES adventure proved another monumental shift in what gamers expected from a platform game. It also highlighted that Nintendo was becoming pretty much untouchable within the genre.

DRAGON QUEST III

DEVELOPER: CHUNSOFT

Though it's notable for its flexible character classes, this hit RPG is best remembered in Japan for being so highly anticipated that hundreds of children bunked off school so they could buy it.

CHASE HQ

DEVELOPER: TAITO

Although Taito's high-speed racer did give you a tight time limit to contend with, it was more concerned with having you aggressively take down fleeing felons as quickly as possible.

EXILE

DEVELOPER: PETER IRVIN/JEREMY SMITH

While it's perhaps best-known for its *Metroid*-like structure and hard-to-get-used-to gravity, *Exile*'s greatest achievement is in building a unique living world that felt far beyond what similar games were offering.

WASTELAND

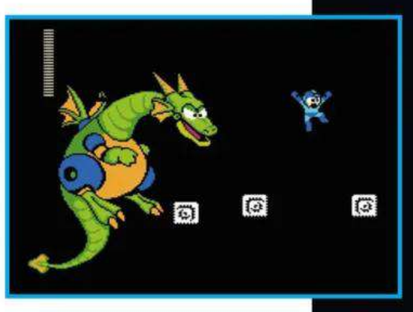
DEVELOPER: INTERPLAY PRODUCTIONS

Featuring gameplay based on popular tabletop mechanics of the time, *Wasteland*'s apocalyptic setting, engaging writing and willful NPCs helped influence countless later games, including a series called *Fallout*.

MEGA MAN II

DEVELOPER: CAPCOM

Capcom's sequel is a vastly improved follow-up, adding challenging level layouts, terrific boss designs and memorable weapons. Little wonder it went on to become the most successful game of the series.



» [PC Engine] Good: new console. Bad: brains and guts in a pinball game? That's just nasty.

» [Arcade] Wallop the things, watch them splat against the wall. That's kind of gross too.

1988

The moral authorities were sure to be out in force when they saw the kinds of games that started showing up in arcades in 1988. Namco's *Splatterhouse* was a beat-'em-up love letter to the gory horror films that were so popular during the decade, while *NARC* went for the over-the-top action-movie route, justifying its bloodshed by casting the enemies as drug traffickers. Of course, the real thing wasn't too far away as *RoboCop* was a hit in both the arcades and the home for Data East and Ocean Software.

Even on the home computers, it was hard to avoid these themes – gore was also a key feature of the cult cyberpunk adventure *Snatcher*, the Japanese game that was arguably Hideo Kojima's most famous work of the decade. Back here in the UK, if you weren't working through Ocean's excellent *Platoon*, you might well have been taking out street thugs in *Target: Renegade*. Fortunately, *MicroProse Soccer* steered clear of any violence on the terraces and delivered a sensible take on football, though *Speedball* ensured that violence and sport retained their long-standing connection.

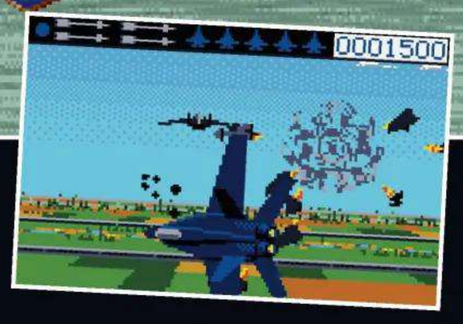
Nintendo's stance on violence ensured that the NES version of *Ninja Gaiden* didn't have anything gory going on, instead providing good clean platform fun that contrasted with the beat-'em-up action of the arcade game (called *Shadow Warriors*). Meanwhile, blasters like *Armalyte* and the Master System's *Power Strike* kept the screaming deaths on a more theoretical level, which will have been a relief to concerned parents everywhere.

1988 was also the year that import games became attractive to the UK audience, as news of new super consoles from Japan arrived in magazines. The diminutive PC Engine offered up conversions of *R-Type* and *Space Harrier*, as well as the creepy pinball game *Alien Crush* and the platformer *The Legendary Axe*, all of which were as good as the screenshots made you imagine they might be. Late in the year, Sega would launch the Mega Drive with a sequel to *Space Harrier*, which at the very least looked great on paper.

TONY TAKOUSHI ON IMPORT GAMES

"With the arrival of the Sega Master System and the 8-bit consoles I was hungry for more… so looked to Japanese mags and saw there was another world of machines and games out there! This was an absolute *thrill* to me at the time, so I devoured the mags and made calls to find out more. The response in *CVG* was amazing and the editor asked me to expand it to two pages and I went hunting for more 'gold' – the results spoke for themselves, as the Mean Machines section exploded in popularity."

» [Arcade] Burly brawls were the flavour of the year in the coin-op world, and rightly so.



» [Atari Lynx] *Blue Lightning* was an impressive display of the graphical prowess of Atari's new handheld hardware.

1989

If you were a fan of beat-'em-ups, arcades at the end of the Eighties were the place to be. Whether you favoured *Golden Axe*'s fantasy theme and spectacular magic attacks, the four-player cartoon action of *Teenage Mutant Ninja Turtles* or the more traditional urban combat of *Final Fight*, there was something for everyone. Elsewhere in the arcades, *Strider*'s acrobatic action and the driving games *Super Monaco GP* and *Hard Drivin'* turned heads.

Strategy games including *North & South*, *SimCity* and *Populous* were in vogue on the home computers, as were shoot-'em-ups like *Battle Squadron* and *Xenon 2: Megablast*. It was a good year for point-and-click adventures like *Indiana Jones And The Last Crusade* and *The Colonel's Bequest* too. Meanwhile, games like *Shadow Of The Beast* and *It Came From The Desert* really took advantage of the Amiga hardware, but games like *Myth: History In The Making* and *Stunt Car Racer* were great across all formats. The brilliant *Prince Of Persia* also landed this year, but only on the Apple II – other platforms had to wait.

If you were following the import game scene, you got an early glimpse of technologies that would carry us into the Nineties. Handheld games came of age this year thanks to new hardware launches, with the Atari Lynx boasting the impressive air combat game *Blue Lightning* and a great conversion of *California Games*. Nintendo's Game Boy had a range of great early games too, including *Pinball: Revenge Of The Gator*, *The Final Fantasy Legend*, the iconic *Super Mario Land* and its pack-in game *Tetris*.

Super Hang-On, *Truxton* and *Golden Axe* were the kind of arcade conversions that convinced many to import Sega's 16-bit Mega Drive, and the PC Engine offered plenty of great games of its own, including *Bonk's Adventure*, *Military Madness* and the action RPG *Neutopia*. However, the HuCard games took a back seat to CD-ROM games this year. An accurate conversion of *Wonder Boy III: Monster Lair* and particularly the RPG *Ys Book I & II* really shined – with fantastic cutscenes, plenty of voice acting and amazing music, it offered a tantalising glimpse of what the technology could offer us in the coming decade. That's a story for another time though...

JIM BAGLEY ON THE GAME BOY

"I think the Game Boy was so popular because the batteries lasted for a lot longer than the competition, the Game Gear and especially longer than the Lynx. Also the game that came with it, *Tetris*, was such an addictively playable game, and from a developer's point of view it was a nice system – it was like a monochrome Speccy but with hardware sprites. I wrote *Defender* for the Game Boy, which is a fast-scrolling game which made the screen really blurry, but it was a nice console to program for."

DEFINING GAMES

POPULOUS

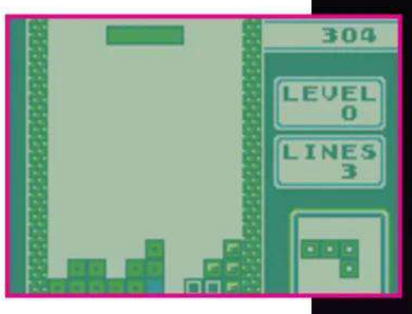
DEVELOPER: BULLFROG PRODUCTIONS

Bullfrog's inventive strategy game allowed you to play god and helped spawn a brand-new genre in the process. Whether you're using manipulation or divine intervention, leading your followers to victory is always satisfying.

TETRIS

DEVELOPER: NINTENDO R&D1

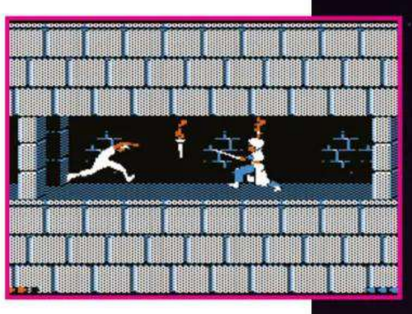
Granted, *Tetris* had existed long before its Game Boy iteration came along, but it was that multi-million-selling version that arguably turned Alexey Pajitnov's classic puzzler into a household name.



PRINCE OF PERSIA

DEVELOPER: JORDAN MECHNER

Building on what he learned from *Karateka*, Jordan Mechner's follow-up fused cinematic storytelling with intense platform action and derring-do swordfighting, all finished off with some impossibly slick rotoscoped animation.



FANTASY WORLD DIZZY

DEVELOPER: THE OLIVER TWINS

Budget games were absolutely huge during the late-Eighties and no budget hero was bigger than Dizzy. Created by the Oliver twins, Dizzy's third adventure remains his best and proved that big games didn't need big price tags.

HARD DRIVIN'

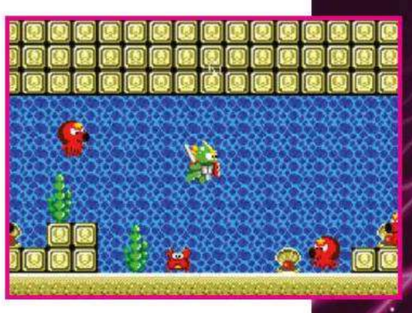
DEVELOPER: ATARI GAMES

Namco's *Winning Run* may have pushed polygons in arcade racers first, but Atari's seminal game let you tackle jumps and stunt loops while offering a convincing physics engine and a realistic car shell.

WONDER BOY III: THE DRAGON'S TRAP

DEVELOPER: WESTONE

While *Metroid*-like in its structure, its reliance on switching animal forms to continue progress certainly helped Westone's enjoyable game forge its own unique path.



THE REVENGE OF SHINOBI

DEVELOPER: SEGA R&D2

Home computers still dominated in the late-Eighties, but Sega's sequel, with its arcade-like visuals and epic boss fights was an appealing showpiece for the new console generation.

SIMCITY

DEVELOPER: MAXIS

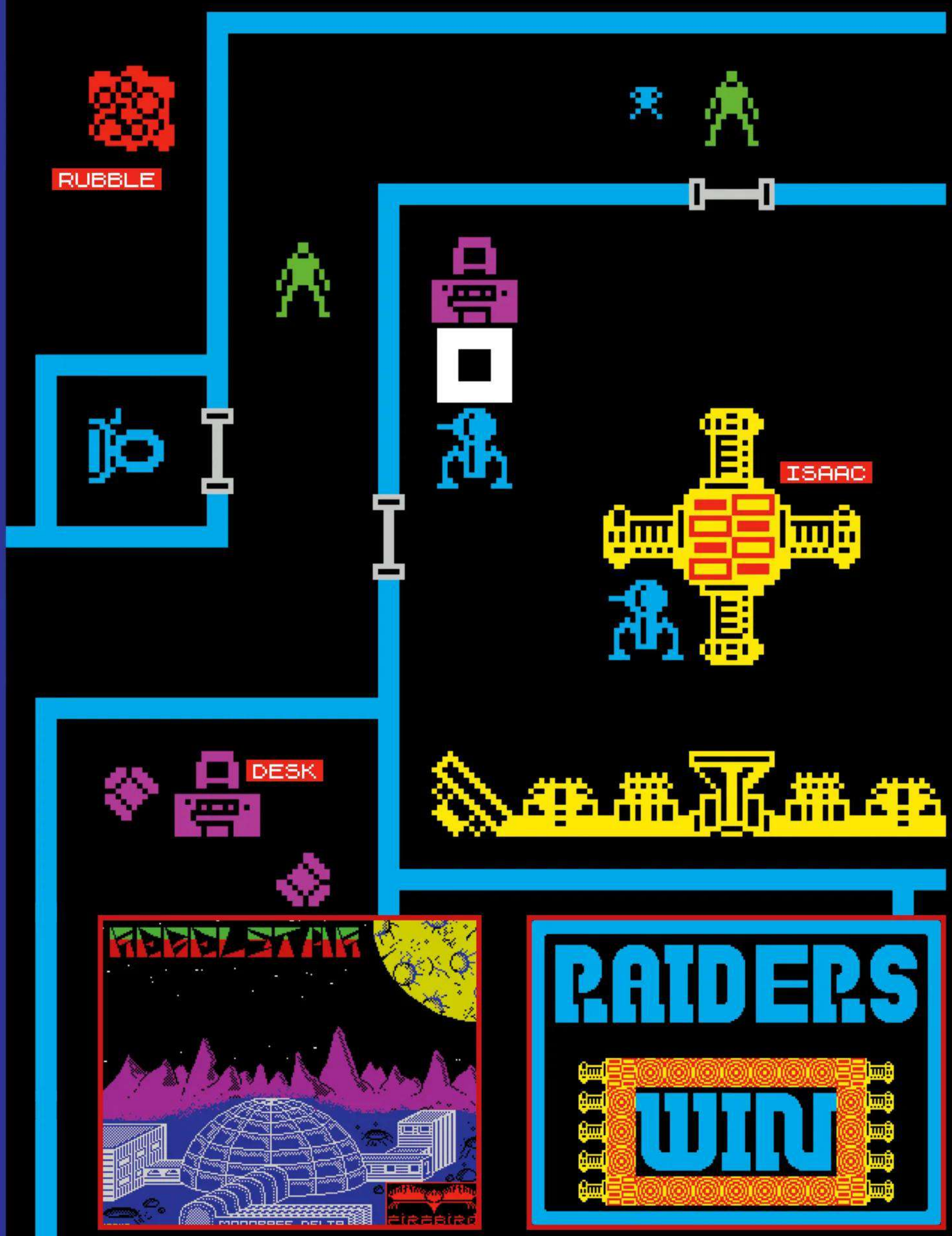
Will Wright's epic city-builder helped revolutionise the genre and received huge acclaim. Its structure meant that it stood apart from other strategy games and led Maxis to create all manner of *Sim* follow-ups.

ULTIMATE GUIDE

REBELSTAR

THE SECOND GAME IN THE REBELSTAR SERIES CATAPULTED THE ACTION STRATEGY GENRE INTO THE HOMES OF SPECTRUM OWNERS AND KICK-STARTED THE CAREER OF ITS AUTHOR, JULIAN GOLLOP. SO GET THAT PHOTON RIFLE READY – THE CYBER HORDES AWAIT YOU…

WORDS BY GRAEME MASON



While budget games were a massive boon for cash-strapped kids in the Eighties, you never quite knew what you were getting for your £1.99. There were a dozen ramshackle efforts for every little gem, rushed out to earn a quick buck, quantity over quality. Value for money was a huge variable, but for anyone that invested two pounds into *Rebelstar*, there could have been very few worries over whether players were getting their money's worth.

Created by Julian Gollop and released by Firebird Software in the autumn of 1986, *Rebelstar* is a futuristic turn-based strategy game set on the Earth's only natural satellite. The player controls the Raiders, a band of soldiers sent to assault Moonbase Delta and destroy its central computer, named Isaac. In the one-player game, Isaac is guarded by a company of elite droids, varying in strength and agility. After selecting your difficulty setting (which influences the number of droids and your squad), the player's soldiers are dumped onto the moonscape outside the base. Accompanying the humans are tough combat droids, and they use their powerful blast torches to break through the airlocks and into the base.

Once inside, the alerted enemy forces will converge on the intruders. Each Raider comes armed with a weapon and other miscellaneous items, including medi-probes (for healing injured teammates), ammunition packs and light sabres. The entire base and all its defenders are visible to the Raiders, who advance using cover to protect themselves from the droids. The target, Isaac, is in the top middle of the map, but beware: a direct assault is not recommended, given the long corridor that leads to the computer.

As they have the element of surprise, it's the Raiders' turn first. The player moves the square cursor using the keys QWEADZXC, which form a lopsided square around

"UNITS FELT ALIVE, WITH THEIR OWN UNIQUE SET OF ATTRIBUTES AND SOME HILARIOUS NAMES"
FERNANDO PEREIRA

» [ZX Spectrum] *Rebelstar*'s two-player mode pitches humans versus humans and robots.

» [ZX Spectrum] Entering fire mode changes friends and foes to target circles.

» [ZX Spectrum] Very soon, the detritus of war litters the battlefield.

MASTER THE REBELS

FOLLOW THIS TACTICAL ADVICE TO BECOME A REBELSTAR MASTER

TO PROTECT AND PRESERVE

Knowing and using the correct weapons in *Rebelstar* is critical. Each gun has different allowances for Action Point use, accuracy and ammunition clip. Make sure you balance all these and deploy the host unit according to their weapon's strengths. And don't forget to reload.

THE DEFENCE LASERS

There are three defence lasers situated within the southern half of the Moonbase. Once all three have been destroyed, the defensive shield over the base disappears, and reinforcements drop in. The first will arrive within three turns, with another raider appearing shortly after.

DROID MEND DEFENCE

The droid mend doesn't just repair your droids – it protects them as well. Positioning a combat droid on one of these red and white squares yields a handy 50-point protection bonus. Allied to its impressive armour of 12, this makes the robot almost invulnerable.

I LIKE TO KEEP THIS HANDY... FOR CLOSE ENCOUNTERS

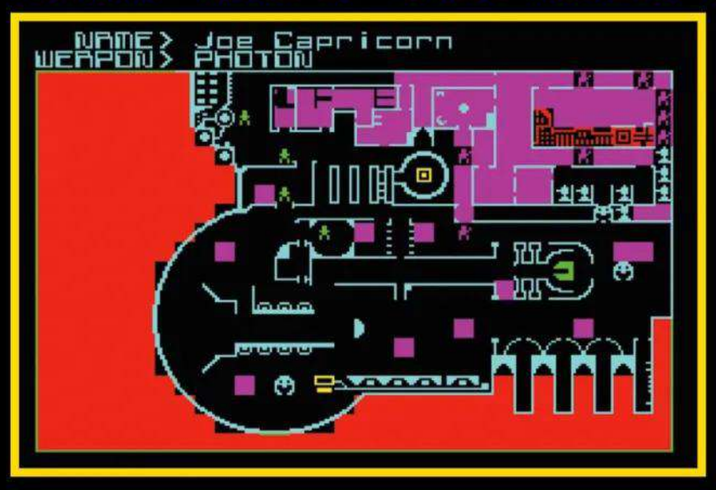
The photon is the most devastating weapon in *Rebelstar*. While its inaccuracy makes it useless at long range, its two-point AP cost for a snapshot ensures it is an invaluable weapon at close quarters. In addition, it has a clip of 18 shots, so you'll get plenty of bang for your buck, too.

DISTRACT, DESTROY AND TRIUMPH

If you don't want to know the winning tactic for *Rebelstar*, stop reading! Use the southeast squad as a distraction by cutting through the airlock and positioning your combat droid just inside the base. The enemy will mass towards it, giving the rest of your forces a free run at Isaac.

A RETURN TO REBELSTAR

FURTHER TALES OF THOSE RAIDING REBELS



REBELSTAR RAIDERS

■ The story of the Raiders begins here. Set over three single-screen scenarios, much of the gameplay seen in *Rebelstar* has its genesis in this game. In the first mission, the Raiders attack a Moonbase disguised as a mining installation and include a certain Captain Krenon in their forces. Unlike *Rebelstar*, it's two-player only.

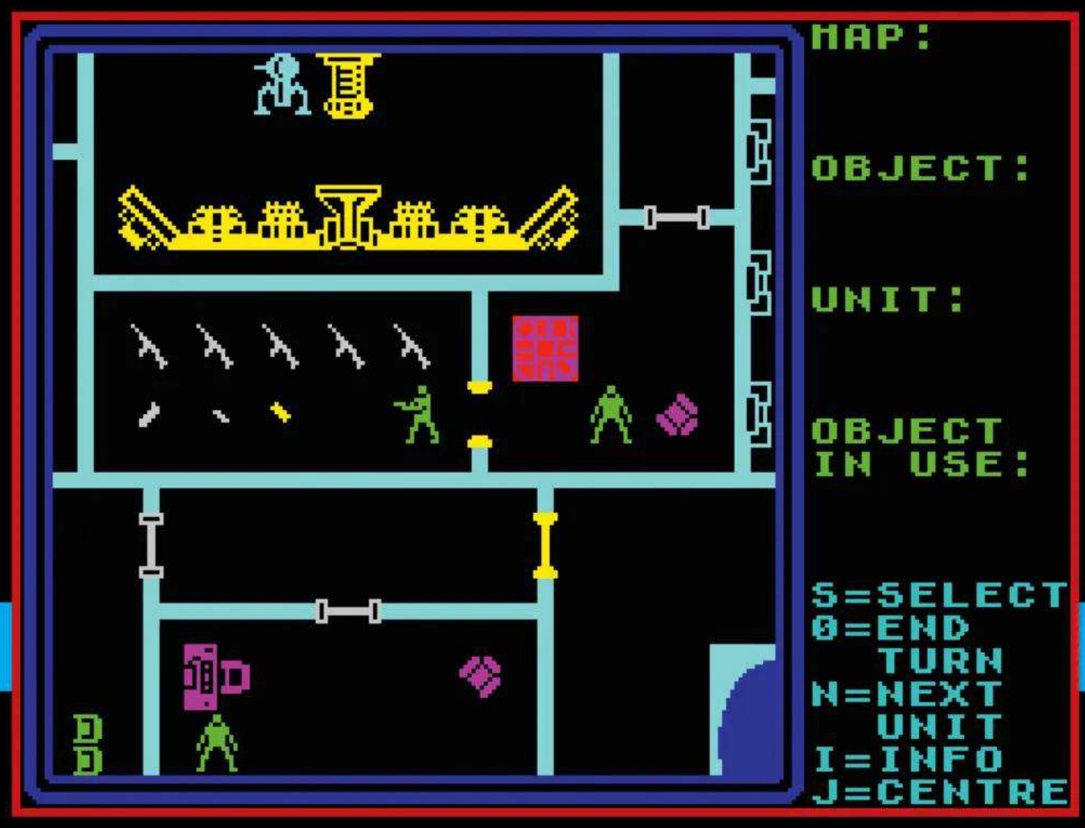
REBELSTAR II

■ Taking note of some of the criticism of *Rebelstar* (most notably its ease), Julian Gollop introduced a strict turn limit in its sequel, inducing a panicky rush across the game's alien landscape. Inspired by the movie *Aliens*, the Raiders must steal alien eggs and board their ship before it takes off and leaves them stranded.

REBELSTAR: TACTICAL COMMAND

■ This Game Boy Advance sequel, released in 2005, merges several of Julian Gollop's previous works into a turn-based adventure for the Nintendo handheld. Featuring a graphical style reminiscent of *UFO: Enemy Unknown* and the refined combat first seen in *Laser Squad*, there's not much here to connect it to the original *Rebelstar* – but it's still a fun experience.

» [ZX Spectrum] The battle for the Moonbase is over as Topper Henley destroys Isaac.



» [ZX Spectrum] The Operatives have two gun caches to loot.

KNOW YOUR ENEMY

WHAT TO EXPECT WHEN YOU BREAK THROUGH THOSE AIRLOCKS

ANDROID

■ The all-rounder of the droid army, the android has an average Constitution score and Action Points, decent weapon skill but no armour. It's armed with a laser pistol.

HUMAN DEFENDER

■ While they lack the armour and endurance of their robot pals, the human defenders more than make up for this with cunning and tactical ability.

MASTER DROID

■ The deadliest of the droids, the master droid has a huge hit point tally and decent armour. The trade-off is a low AP count.

MINER DROID

■ This huge and lumbering robot cannot attack enemies but boasts a massive Constitution score making it a valuable blocking unit to protect vulnerable Operatives.

PATROL DROID

■ Despite their low Constitution score and shot power, don't underestimate the patrol droid. They have a high AP, and their small stature makes them difficult to hit.

SENTRY DROID

■ With medium armour and slightly more AP than the master droid, these robots have the most potent weapon, a laser fitted to their heads.

SERVO DROID

■ These servant droids begin the game unarmed but can be used offensively once the Operatives have opened up their armoury. Not a great soldier, but still useful.

the letter S for select. Highlighting a unit gives you some basic data: map info (if the character is standing in a crater, for example), object info (if they're standing over an object), unit name and object in use. Selecting a character brings up another tranche of information. Morale, Stamina, Action Points and Protection are displayed in the top right of the screen. Characters who witness a colleague's death will see their Morale plummet while constantly traipsing around the Moonbase without taking a breather will ensure their Stamina declines, eventually leading to an Action Point penalty. Protection is an environmental stat gained when a unit is placed on a chair or droid mend – but it is Action Points that the player must observe the closest, the most crucial statistic in the game.

Each unit has an allocation of Action Points (AP), and every action uses a portion of this. Moving horizontally or vertically uses two points, while a diagonal move consumes one or two more. Swapping weapons, picking up items, healing a colleague, mowing the lawn, using a coffee token, whatever you do in *Rebelstar*, there's an AP cost, calculated as a percentage of the unit's overall Action Point tally. Dropping an item, changing items or picking something up costs 10% while reloading a weapon takes 50%. In the heat of battle, with Action Points quickly exhausted, carefully managing each unit's activities is a critical part of the mission.

The central use of Action Points is combat. Once armed with a weapon, each unit can fire either an aimed shot or take a snapshot. The former is more accurate but uses extra Action Points, while *Rebelstar*'s engine calculates the percentage chance of hitting a target based on the type of shot, weapon and the unit's weapon skill. After selecting a unit, pressing F (for fire mode) engages the game's alternate engine as all the opponents and your colleagues become coloured circles. The cursor switches to a target, ready to focus on an enemy, and a series of combat-related stats appears: percentage chance of hitting the target, ammo remaining, Action Points remaining, and the cost for an aimed and snapshot. Finally, the player can command a unit

CONVERSION CAPERS

HOW REBELSTAR FARES ON ITS OTHER FORMAT, THE AMSTRAD CPC

A year after the release of Spectrum *Rebelstar*, Julian Gollop brought his breakthrough hit to the Amstrad CPC. While much of the original's mechanics are the same, there's enough variety to interest fans. The map is different, encompassing a series of tight corridors and connecting rooms, with the Raiders deployed manually by the player instead of randomly around the base exterior. Combat-wise, laser fire is much deadlier, making opportunity fire and cover even more vital. The Morale and Stamina statistics also have more impact, and while it may be realistic to have panicking units unable to fight, it's a frustrating mechanic that lessens the pure fun of *Rebelstar*. Overall, the Amstrad game is a considerably stiffer challenge, given there are five defence lasers to destroy before you can get reinforcements, plus a turn limit. Yet together with its crunchier sound effects and more weapons, it acts as a decent stepping stone toward Julian Gollop's next big sci-fi opus, *Laser Squad*.

"REBELSTAR EVOLVED INTO LASER SQUAD, WHICH EVOLVED INTO THE MASTERWORK UFO: ENEMY UNKNOWN"

FERNANDO PEREIRA

"I WANT TO BRING REBELSTAR TO THE MODERN TIMES WITH IMPROVED FEATURES WHILE KEEPING ITS RETRO ESSENCE"

FERNANDO PEREIRA

REBELSTAR ARMOURY

YOUR GUIDE TO THE WEAPONS IN REBELSTAR

LASER GUN

■ The stock weapon for the Raiders. Medium damage and accuracy, and holds six shots. But has a high Action Point cost.

LASER PISTOL

■ Smaller and quicker, the laser pistol uses much less AP and holds ten shots in its clip. The downside is accuracy and damage.

PHOTON

■ While less accurate than the laser gun, the photon only uses two AP per shot, making it a devastating weapon at close range.

LIGHT SABRE

■ Once you've run out of ammo, the light sabre is often the only option. It is also helpful for destroying the defence lasers and Isaac.

BLAST TORCH

■ Each combat droid holds four blast torch charges. Some are required to enter the base – you can use the remaining with lethal effect on the enemy.

PISTOL

■ The Operatives wield regular pistols, and they aren't much cop. They are slightly higher in AP cost than the laser pistol and are also more inaccurate and useless at range.

AUTO-RIFLE

■ The Operatives have a supply of auto-rifles locked safely away. More accurate than the laser gun, they have a large clip, holding 14 shots.

» [PC] Fernando Pereira's *Archrebel Tactics* is looking very special indeed.

DEVELOPER Q&A

RETRO GAMER EXCHANGES LASER FIRE WITH FERNANDO PEREIRA, THE CODER BUSY CREATING ARCHREBEL TACTICS, A 21ST-CENTURY HOMAGE TO JULIAN GOLLOP'S CLASSIC STRATEGY GAME

Do you remember the time you first played *Rebelstar*?

Absolutely! I was deeply intrigued by the game as I had never seen anything like it. Although I would just watch my cousin play it with his friends, I would constantly ask questions about it.

What do you think makes *Rebelstar* so revered today?

It featured a large scrolling map with many controllable units, vulnerable to a simple but compelling wound and mood system. Units felt alive, with their own unique set of attributes and some hilarious names. Then, you had the turn-based mechanics, shots missing by a few pixels and melee combat when you ran out of ammo. Dead bodies could be looted and caused path obstructions. Imagine all this packed into one game back in the Eighties when platform and shoot-'em-ups were the norm.

Did you play the game against a friend?

My room would fill up with friends to play on the Speccy! Due to *Rebelstar*'s popularity and the long-lasting matches, we would make two-versus-two battles with alternating turns. We worked out there was only one viable tactic – the defending player gathers all their forces inside the computer room. There is little the Raiders can do to overcome this tactic.

Why remake *Rebelstar*?

Rebelstar evolved into *Laser Squad*, which evolved into the masterwork *UFO: Enemy Unknown*. Unfortunately, we lost *Rebelstar* as this transpired, and I really miss playing *Rebelstar*. I also want to revive it so a younger generation of people have the opportunity of experiencing it.

What improvements are you making?

It will feature more sophisticated pathfinding, line of sight, fog of war, a unit levelling-up system, localised body damage, and a hybrid campaign both hand-crafted and procedurally generated. Everything that *Rebelstar* did, *Archrebel Tactics* will do, but better, although some features can be turned off so that nostalgic players can recreate the original experience. I want to bring *Rebelstar* to modern times with improved features while keeping its retro essence, hence keeping the connection to its roots.

You can check out Fernando's progress on *Archrebel Tactics* by visiting archrebel.blogspot.com

Our thanks to Fernando for his time.

» [ZX Spectrum] The Raiders' target, supercomputer Isaac.

» [ZX Spectrum] Persistent Raiders can use the light sabre to open airlocks and locked doors.

to opportunity fire which, when set, fires during their opponent's turn, should an enemy be foolish enough to wander into your field of vision. Back in their turn, once the unit has finished firing, they can move into cover, reload or fire again, Action Points permitting. A successful shot yields a random number of hits on the target, depending on distance, armour and weapon skill.

There's no fog of war in *Rebelstar*; its map is fully viewable from the start of the game. Four airlocks, three in the west and one in the southeast allow access, although you'll need the combat droid's blast torch to burn through them (with no ill-effect on the internal atmosphere – perhaps the moon has been terraformed?). The northwest entrance is the closest to the central computer area, leading to a long corridor. Once at the central hub, you'll need those blast torches again to break through the yellow security doors. However, a Raider with sufficiently high weapon skill can (eventually) burn through these and the airlocks with a light sabre. Across the central part of the base is an open garage area complete with moon rovers and spare parts, giving way to the water filtration and garden areas. The southern portion of the map contains droid bays, offices and a work area, while in the northeast, there's the base's reactor and med bay.

Moving throughout the base uses Action Points, influenced by the underfoot conditions. Piles of rubble litter the northwest part of the map, and once the dead bodies and droid remains start mounding up, these consume extra AP to pass. By the time a game of *Rebelstar* reaches its conclusion, the base's choke points, littered with the carcasses of the vanquished, become almost impassable.

Like its progenitor, *Rebelstar* began life as a two-player game before, at the behest of his publisher, Julian Gollop created a one-player mode. The second player takes on the task of defending the Moonbase as a squad known as the Operatives. A handful of droids from the one-player game remain, although some need to be activated using a droid key. Dotted randomly around the base are the human guardians, armed and able to fire and change weapons, heal each other and move around. The base itself also subtly changes. Some droid bays have been replaced with toilets, while two previously empty rooms now hold a locked arsenal of weapons. In addition to protecting Isaac, pillaging and guarding these armouries are the Operatives' priorities. Fortunately, like the Raiders, the Operatives also receive reinforcements, meaning the former can't linger outside the base for too long.

Enthusiasm greeted *Rebelstar* upon release, its pleasing mix of a large map, attractive graphics and fast, accessible strategy gaming appealing to most. "Simple to pick up but deviously devised," noted *Crash*'s Sean Masterson, awarding the game 93% overall and an incredible 95% in value for money. Sales were perky enough for Firebird to commission a sequel, *Rebelstar II*, an *Aliens*-inspired jaunt that introduces a much-needed time limit. Then, Julian Gollop's attention turned to *Laser Squad*, *Lords Of Chaos* and arguably his most popular game of all time, and one that owes a serious debt to *Rebelstar*, *UFO: Enemy Unknown*.

By then, complexity had taken over, an in-depth, world-encompassing mission to save humanity from an alien menace. While only containing one map and a humbler set of rules, back in the Eighties, *Rebelstar* was the 8-bit strategy game that made many afternoons against the computer or a friend disappear. Now that's value for money. ✱

» [Amstrad CPC] *Rebelstar* on the Amstrad is a tighter, more deadly affair.

» [Amstrad CPC] Akin to its direct descendent, *Laser Squad*, the Raiders are deployed manually in the Amstrad version of *Rebelstar*.

THE LEGACY OF THE commodore 64

IT HAS BEEN MAKING BEIGE THE NEW BLACK SINCE 1982, SO JOIN US FOR A CELEBRATION OF THE MIGHTY C64 AS WE REVISIT ITS HIGHS AND OCCASIONAL LOWS OVER THE LAST FOUR DECADES

WORDS BY PAUL DRURY AND ANDREW FISHER

Let's get something straight from the start – you could not fit a loaf inside a Commodore 64. Whoever came up with the nickname 'beige bread bin' must have frequented a yeast-free bakery but then the Spectrum's keyboard was not actually made of zombie-flesh either. It's a sign of how both these beloved micros, released in the same year, generated finger-pointing ridicule along with deep and enduring affection, a sure indication of cultural significance.

The C64 was not Commodore's first microcomputer, having launched the PET 2001 in 1977, nor was it the first to make a serious impression on the mass market, with the VIC-20 selling over a million units during its short commercial lifespan. Yet the C64 would be its most lasting legacy (sorry, Amiga fans), holding the Guinness World Record for best-selling single model computer, shifting an estimated 12,500,000 machines. It left behind a wealth of memorable games as well as kick-starting the careers of many programmers on both sides of the Atlantic – and even a few in Japan.

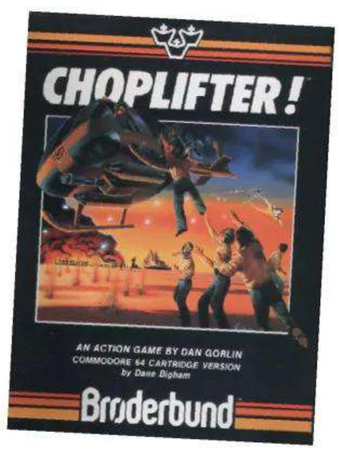
Work on Commodore's successor to the VIC-20 began in 1981, led by the skilled team at MOS Technology, a chip design and manufacturing company acquired by Commodore in 1976. Jack Tramiel, who had founded the company back in 1953, set a tight deadline of January 1982 for the new micro to be ready for its first public viewing at the Consumer Electronics Show that year. During development, the codename of the machine the world would come to know and love as the C64 was the VIC-40, a nod to its superiority over its plucky predecessor, which is rather apt as we now take a tour through 41 years of the beige ciabatta tin. No, we don't think it will catch on either.

» [C64] Polly put the kettle on, the terrible music that accompanied *Radar Rat Race*.

1982

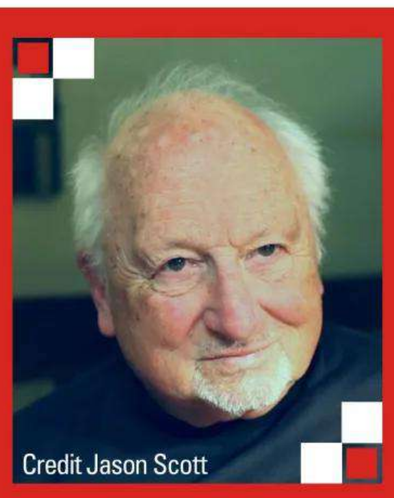
With appetites suitably whetted after its appearance at trade shows at the start of the year, the Commodore 64 went on sale to an eager public in August 1982. The general consensus seems to have been this was a lot of computer power for the very reasonable price of $595 (£399 when it arrived in the UK), with reports that envious Atari executives grumbled at how such a low retail price could have been achieved. The secret was vertical integration: by controlling numerous stages of hardware production, including those all-important custom chips, Commodore was not at the mercy of greedy or unreliable suppliers and could keep component costs low while still maintaining a healthy profit margin. This allowed a dramatic price cut of $200 before the year was out, putting it well below its US competitors, the Apple II and Atari 800, and considerably closer to Sinclair's ZX Spectrum, its main rival in Britain.

Commodore's aggressive pricing strategy proved it meant business and of course the machine was marketed as a powerful tool for small enterprises, offering accounting packages for the aspiring entrepreneur. However, the company's experience with the VIC-20 meant it knew games helped sell computers and its cartridge releases of such arcade staples as *Omega Race*, *Clowns* and *Radar Rat Race* (its clone of Namco's *Rally-X*), were some of the better titles available in the lead up to the machine's first Christmas. Third-party publishers like Sirius and Infocom were early supporters, the latter's releases pushing sales of the 1541 disk drive, which was slow, unreliable, and cost almost as much as the computer itself but facilitated some excellent text adventures. And 1982 would also see the first C64 games from Llamasoft's Jeff Minter, whose career would progress hand in hoof with the machine in the following years. ▶

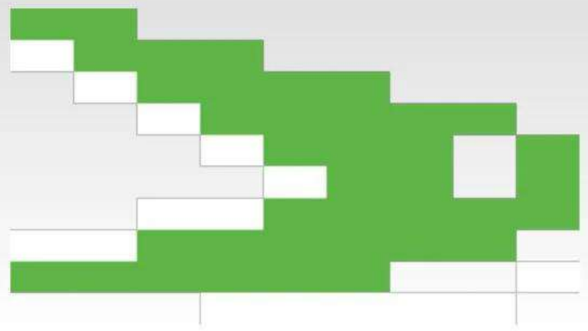


MOS DEF

■ Jack Tramiel made many canny decisions during his long tenure as head of Commodore but the most profitable was purchasing MOS Technology, a semiconductor design and fabrication company based in Pennsylvania. The acquisition meant Commodore not only got to put the new 6502 microprocessor at the heart of its home computers, it also gained the services of visionary designer Chuck Peddle (pictured in 2013) and Bob Yannes, the genius behind the SID audio chip.


Credit Jason Scott

"ENVIOUS ATARI EXECUTIVES GRUMBLED AT HOW THE C64 COULD BE SOLD AT SUCH A LOW RETAIL PRICE"



DEFINING GAMES

AVENGER

PUBLISHER COMMODORE
DEVELOPER UNKNOWN
HIGHEST SCORE 4/5 (COMMODORE USER)

■ Back in the Seventies and early Eighties, the first year of any new machine's life was usually dependent on first-party software. Commodore had a track record of producing decent arcade conversions for the VIC-20 and having a solid *Space Invaders* clone still mattered in 1982. Which this was.

DEADLINE

PUBLISHER INFOCOM
DEVELOPER MARC BLANK
HIGHEST SCORE 93% (ZZAP!64)

Living Room Time: 8:07 AM
personal wealth of the Robners. The
south side of the room is a large bay
window, now closed, which looks out
onto the front yard.
A wood pile sits beside a huge
fieldstone fireplace. A double doorway
leading to the main hall is the only
exit. Pictures of Mrs. Robner's
Colonial ancestors line one wall. The
room contains formal seating for at
least fifteen people, in several groups
of chairs and couches. Tables and
cabinets, all of the finest mahogany
and walnut, complete the furnishings.
On one of the tables is a telephone.
Sitting on a table is a hardcover book.
Ms. Dunbar is sitting on the sofa here.
>examine book
This is a novelization of DEADLINE, a
classic work of computer fiction.
>

■ Though largely a forgotten genre today, it's hard to underestimate how important text adventures were to early home computing. Infocom produced some marvellous titles for the C64, including this intriguing murder mystery, which pioneered the inclusion of physical clues in the game box.

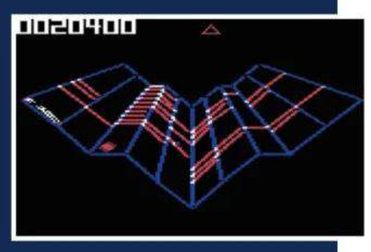
FORT APOCALYPSE

PUBLISHER SYNAPSE SOFTWARE
DEVELOPER JOE VIERRA
HIGHEST SCORE 5/5 (HOME COMPUTING WEEKLY)

■ *Choplifter* was great but we prefer our helicopter action to be claustrophobic and brutal. Entering the underground base and tackling its many obstacles and enemies was a supremely tense experience, requiring patience and forethought as well as firepower.

AXIS ASSASSIN

PUBLISHER: ELECTRONIC ARTS
DEVELOPER: JOHN FIELD
HIGHEST SCORE 70% (ZZAP!64)



■ The missing link between *Tempest* and *Beamrider*, this web-based shooter has you blasting creepy crawlies, clearing out the cobwebs and taking on the big mother spider across a series of increasingly challenging levels. Kudos if you can beat the invisible webs.

NIGHT MISSION PINBALL

PUBLISHER: SUBLOGIC
DEVELOPER: BRUCE A ARTWICK
HIGHEST SCORE 83% (TILT)

■ Videogame versions of pinball had been around for many years, but this cleverly designed table was a considerable step forward, offering believable ball physics, a tilt mechanic and the option to tweak various aspects of the game. Fast and flippin' good.

» [C64] More of Paul Norman's atmospheric music and cinematic gameplay in *Aztec Challenge*.

"THIS WAS ALSO THE YEAR THAT THE C64 ARRIVED ON BRITISH SHORES IN SIGNIFICANT NUMBERS"

» [C64] The superb *Spy Hunter* conversion, with *Peter Gunn* theme music, was an early success.

1983

By the end of 1983, three million C64s had been sold worldwide and the machine was firmly established as a desirable computer for gamers and a format worth backing for software developers. Commodore's continued price-cutting and bold marketing certainly helped but external factors also played a role. The infamous US-based 'videogame crash' which severely affected the arcade and console markets, humbling the once mighty Atari and shaking confidence in the very future of the medium, left home computers largely unscathed. Those punters who might have previously upgraded to a new machine from Atari or Intellivision could see the advantage of opting for a micro instead and companies such as Activision, built on producing third-party titles for consoles, also moved into making games for computers. Innovative titles by David Crane, Mark Turmell and the Kitchen brothers would soon be gracing the C64.

This was also the year that the C64 arrived on British shores in significant numbers. The Spectrum had a considerable head start, both in terms of computers sold and number of games available, and it is noticeable that many of the best releases for the C64 in 1983 originated from the US. Credit, then, to UK developers such as the aforementioned Llamasoft, Alligata and the Bridlington-based Taskset for flying the flag with some fine homegrown titles.

The growing user base for Commodore machines (remember, the VIC-20 was still doing brisk business) led to the launch of a dedicated magazine, entitled, appropriately enough, *Commodore User*. A pilot issue was produced for the International Commodore Computer Show in June with the official first issue appearing on newsstands in October. The magazine was a wonderful smorgasbord of ideas and features, with articles on learning machine code and technical tips for creating better sprites sat next to advice on purchasing a printer, reviews of the latest software releases and plenty of game listings to type in. And adverts. So many adverts. As the years went by, the magazine would focus primarily on commercial games, as clearly shown by the changing style of cover images, but those early issues are a pertinent reminder that the Commodore 64 was a computer, not just a games machine. You could be a maker as well as a player, you could tinker with it, get creative and explore its, and your own, potential. Heady days indeed.

DEFINING GAMES

BEACH-HEAD

PUBLISHER: ACCESS SOFTWARE
DEVELOPER: BRUCE & ROGER CARVER
HIGHEST SCORE 9/10 (CVG)

■ World War II has long provided subject matter for videogames and this four-stage assault on the enemy, fighting on land, sea and in the air, offers a tense and varied conflict. Finally blowing up the big gun was supremely satisfying.

BLUE MAX

PUBLISHER: SYNAPSE SOFTWARE
DEVELOPER: PETER C ADAMS
HIGHEST SCORE 5/5 (YOUR COMMODORE)

■ Fly your biplane over hostile territory, bomb enemy encampments, machine gun opposing pilots and earn the coveted Blue Max medal awarded to brave German pilots while listening to *Rule Britannia*. No, we don't know what side we were supposed to be on either.

FORBIDDEN FOREST

PUBLISHER: COSMI
DEVELOPER: PAUL NORMAN
HIGHEST SCORE 9/10 (PERSONAL COMPUTER GAMES)

■ If you go down in the woods today, you're sure of a big surprise… like being crushed by a giant frog or speared by a skeleton. Hugely atmospheric and pretty gory for its day, we still smile at the bold bowman's victory dance.

INTERNATIONAL SOCCER

PUBLISHER: COMMODORE
DEVELOPER: ANDREW SPENCER
HIGHEST SCORE 10/10 (CVG)

■ A landmark title in the history of videogame adaptations of the beautiful game, this offered an accessible and entertaining kickabout, even if the goalies mainly performed ineffective belly flops and you could juggle the ball on your head halfway down the pitch.

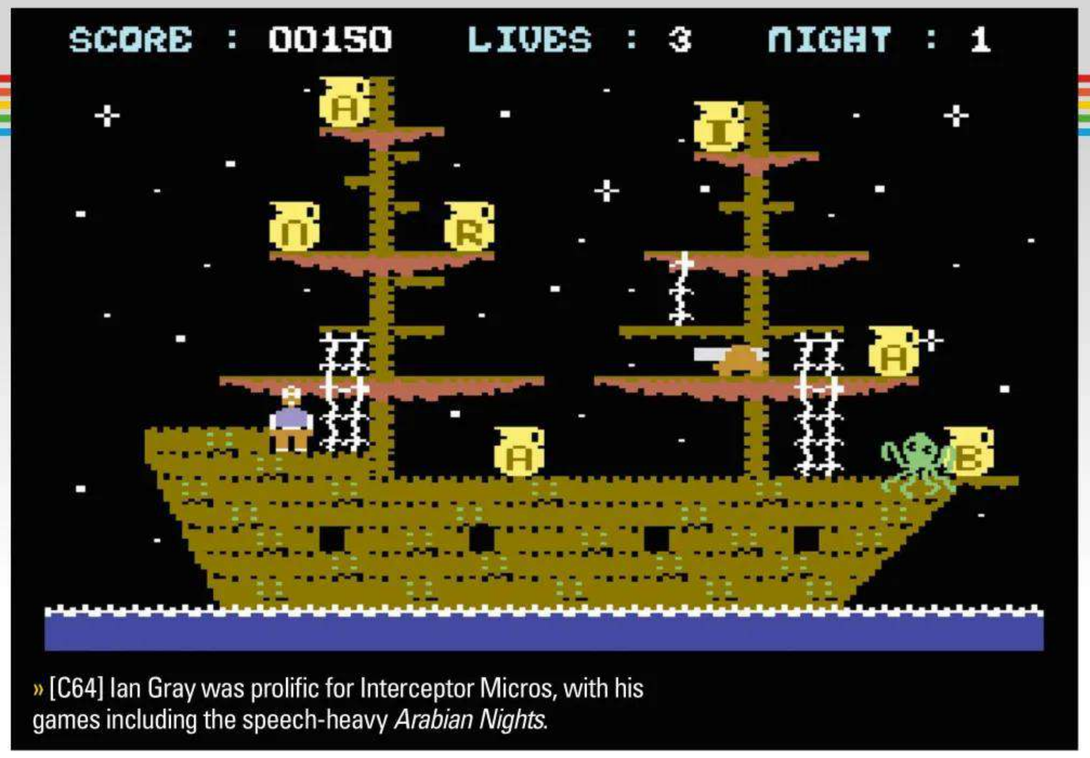
JAMMIN'

PUBLISHER: TASKSET
DEVELOPER: TONY GIBSON
HIGHEST SCORE 5/5 (CVG)

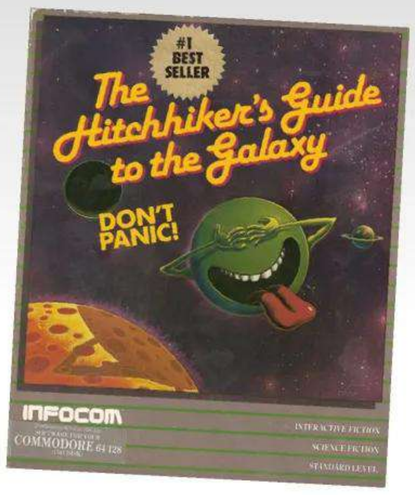
■ "Colour your dream red, gold and green," urged programmer Tony 'Gibbo' Gibson in this highly original action-based puzzler which had you hopping on conveyor belts, collecting instruments and dodging musical thieves, all to a banging, dynamic soundtrack.

HAVE SX-64, WILL TRAVEL

■ With 'business' literally being the company's middle name, it's no surprise that Commodore was a pioneer in the portable-computer market. The SX-64, announced this year though not released until 1984, looked like a sturdy briefcase and came with a built-in disk drive and a 5-inch monitor. Retailing at almost $1,000, it didn't sell well but is highly collectable now – just don't use it as a laptop, as it's likely to cut off circulation to your legs.



» [C64] Ian Gray was prolific for Interceptor Micros, with his games including the speech-heavy *Arabian Nights*.



"A COMMODORE SPOKESMAN PREDICTED ITS COMPUNET SERVICE WOULD ATTRACT 1,000 SUBSCRIBERS IN ITS FIRST MONTH"

1984

Apple may have tried to claim 1984 as its own in an Orwellian-inspired ad campaign but for C64 owners, this would be the year their beige beauty really began to shine, not something normally associated with that colour. Only a few years before, gamers would be satisfied with single-screen arcade clones but now titles like the politically inflammatory *Raid Over Moscow* and the brilliant *Bruce Lee* offered action across multiple stages. *Quo Vadis*, written by Steven Chapman and published by The Edge (the software house, not the guitarist), boasted an expansive game world a thousand screens big, with a gold sceptre worth £10,000 on offer to the first adventurer to successfully solve the puzzles scattered through the vast cavern system. The prize remains unclaimed to this day.

Though the size and quality of games was increasing exponentially, game development was still measured in months rather than years, which meant many talented coders were becoming 'names' in the C64 scene. Along with Jeff Minter and his fluffy ungulates, the prolific Tony Crowther became a familiar face in computer magazines with such hits as *Loco* and *Monty Mole*, while Ian Gray at Interceptor Micros produced a string of weird and hard-as-nails titles. Archer Maclean also announced his arrival as a programmer of note with the excellent *Dropzone* but perhaps the most recognisable name was that of Eugene Evans, the original 'whizzkid coder', whose *Psyclapse*, along with the Spectrum's *Bandersnatch*, was lost in the dramatic collapse of Imagine Software.

The cover of *Popular Computing Weekly* in late-August declared Commodore's 'own networking system,' Compunet, was all set for a public launch on 19 September, allowing modem owners to download software, communicate with fellow users, indulge in 'teleshopping', and even manage their bank account. A Commodore spokesman predicted the service would attract 1,000 subscribers in its first month, though we aren't sure this kind of thing will ever really catch on. The company would also launch two new home computers, the C16 and Plus/4, each aimed at different ends of the market, making this an especially eventful year for Commodore, which had begun with founder Jack Tramiel leaving the company in a huff and taking over Atari, triggering a whole new rivalry. There would be blood…

LOOK WHO'S TALKING

■ Glance at the defining games of this year and you'll notice – they talk. From *Impossible Mission*'s goading 'Stay a while… stay forever!' and singing along with *Ghostbusters* (pictured), to customers hailing their space taxi, speech was becoming a familiar feature. Users could also have fun experimenting with speech synthesis packages such as SAM and Magic Voice, which usually involved making your computer swear. We made our own entertainment back then.

DEFINING GAMES

IMPOSSIBLE MISSION

PUBLISHER: EPYX/US GOLD
DEVELOPER: DENNIS CASWELL
HIGHEST SCORE 95% (ZZAP!64)

■ Look how he leaps! We'd played platformers before, but few were this graceful or offered such an intriguing challenge, as you explored the many rooms of Elvin Atombender's underground lair, avoiding his army of killer robots and piecing together punch cards.

BOULDER DASH

PUBLISHER: FIRST STAR SOFTWARE
DEVELOPER: PETER LIEPA & CHRIS GRAY
HIGHEST SCORE 96% (ZZAP!64)

■ Rockford, the cute hero of this ingenious puzzle game, would become something of a mascot for the C64, often appearing in the pages, or more accurately, the margins, of *Zzap!64* magazine, a just reward for starring in such a brilliant title.

BRUCE LEE

PUBLISHER: DATASOFT
DEVELOPER: RON J FORTIER
HIGHEST SCORE 92% (ZZAP!64)

■ Of course you wanted to play as the martial arts legend, unleashing flying kicks on the sorry head of that relentless ninja, but let's hear it for the rotund warrior, Green Yamo, who could opt to help or hinder Bruce – or both.

SPACE TAXI

PUBLISHER: MUSE SOFTWARE
DEVELOPER: JOHN F KUTCHER
HIGHEST SCORE A (COMPUTER GAMES MAGAZINE)

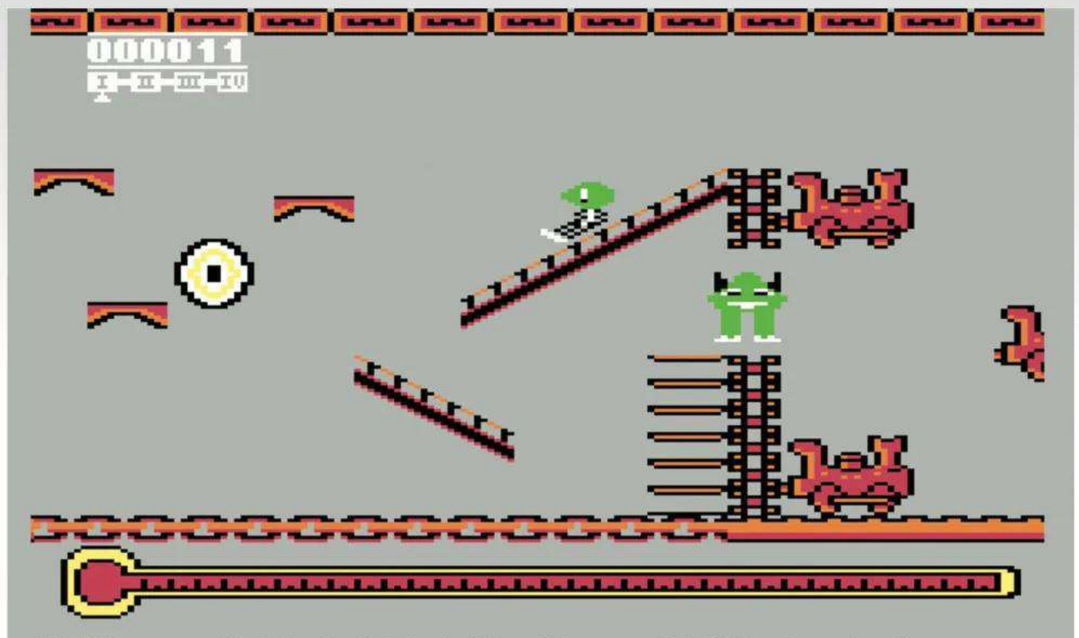
■ "Hey, taxi!" bellows a customer and off you speed to collect your fare and deliver him to his destination in double-quick time. Wildly imaginative level design and crammed with interesting game mechanics, this is Jeff Minter's favourite C64 game. This leads us nicely on to…

SHEEP IN SPACE

PUBLISHER LLAMASOFT
DEVELOPER JEFF MINTER
HIGHEST SCORE 8/10 (PERSONAL COMPUTER GAMES)

■ 1984 was a vintage year for Llamasoft, with both *Revenge Of The Mutant Camels* and *Ancipital* securing the company's standing with C64 gamers, but surely you knew we'd pick Jeff's glorious take on *Defender* as our game of this or any other year?

"WOULD THE LAUNCH OF THE AMIGA MARK THE BEGINNING OF THE END FOR THE C64?"



» [C64] The memorable *Thing On A Spring* had that all-important Rob Hubbard soundtrack.

1985

If you love the smell of new hardware in the morning, 1985 was a good time to be alive. As well as Nintendo releasing the NES in America and Sega's Master System launching in Japan, Commodore released the C128. The new machine boasted backwards compatibility with the C64, more RAM, an 80-column display and a Z80 processor (for CP/M business software) alongside the speedier 8502, all of which may have impressed business users but game developers never really embraced it, with a limited number of releases taking full advantage of its higher spec.

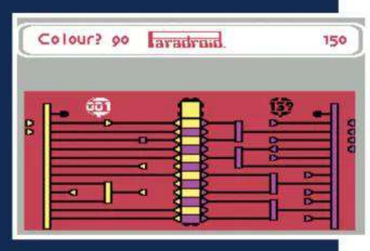
Besides, the real battle was in the brave new world of the 16-bit machines, with Atari, under the direction of a belligerent Jack Tramiel, releasing the ST (the letters stood for Sixteen/Thirty-Two, a reminder of its increased processing power). Commodore replied with the Amiga 1000 and for the rest of the decade and beyond, the pair would go head-to-head on the battlefields of improved hardware, price, software exclusives and fanboy devotion.

So where did this leave the C64 and its mere 8-bits? In rude health, it turned out. The year saw many impressive sequels to popular releases, a sure sign the market was maturing, with *Beach-Head II*, *Spy Vs Spy II* and *Beyond The Forbidden Forest* all building on solid foundations. There were notable forays into the third dimension with *Mercenary*, *Rescue On Fractalus! and The Eidolon*. Releases such as *Ballblazer*, *Kikstart*, *Rocket Ball* and *Winter Games* also gave reason to thank whoever insisted the C64 should have two joystick ports, as playing them in company was so much more fun.

Publishing houses like Ocean Software and Firebird were getting into their stride, bolstering the C64 market with big name conversions and licensed titles and Mastertronic gave us *Chiller*, proving you could buy a decent game for under two quid. The future may have been uncertain – would the launch of the Amiga mark the beginning of the end for the C64 in the same way its own arrival had triggered the demise of the VIC-20? – but the present was proving absolutely glorious.

DEFINING GAMES

PARADROID



PUBLISHER HEWSON CONSULTANTS
DEVELOPER ANDREW BRAYBROOK (GRAFTGOLD)
HIGHEST SCORE 97% (ZZAP!64)

From the minimalistic cool of the visuals to the frantic but tactical droid-capturing subgame, this epic tale of rebellious robots invariably appears near the top of those 'best C64 games ever' lists. And rightly so.

FRANKIE GOES TO HOLLYWOOD

PUBLISHER OCEAN SOFTWARE
DEVELOPER DENTON DESIGNS
HIGHEST SCORE 97% (ZZAP!64)

If you ever wanted evidence that they don't make them like they used to, relax and revisit this surreal mishmash of ideas and game styles, which manages to be absolutely of its time yet strangely prescient.

LITTLE COMPUTER PEOPLE

PUBLISHER ACTIVISION
DEVELOPER DAVID CRANE
HIGHEST SCORE 97% (ZZAP!64)

Another game concept that clearly had legs (very little legs, in this case), David Crane foresaw both the Tamagotchi craze and *The Sims*, with this charming virtual pet package. We have fond memories of playing cards with our Brian. Until his untimely death.

SUPER PIPELINE 2

PUBLISHER TASKSET
DEVELOPER TASKSET
HIGHEST SCORE 88% (ZZAP!64)

It began as an unreleased arcade title and the original game looked impressive on release in 1983, but this sequel gets everything right, from the increasingly intricate pipe systems to the horrible necessity of sacrificing your loyal workmen for the greater good.

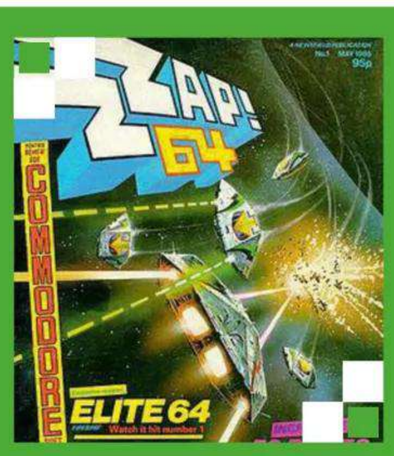
THE WAY OF THE EXPLODING FIST

PUBLISHER MELBOURNE HOUSE
DEVELOPER GREGG BARNETT
HIGHEST SCORE 93% (ZZAP!64)

International Karate and especially its sequel, *IK+*, were great fighting games but right from the nerve-shredding scream on the title screen, this oozes class. We can still feel the exquisite pain of a well-timed kick to the groin.

IT'S A SIZZLER!

Zzap!64 crashed (geddit?) onto the scene in April, with a striking *Elite* cover by the late Oli Frey, and quickly became an essential part of any respectable Commodore gamer's month – and continues to be, since its phoenix-like return in recent years. Writers such as Gary Penn and Julian Rignall became your clued-up best mates, telling you what to buy and what to avoid with a simple tip of their thumbs.



» [C64] *BMX Simulator* was a key launch title for Codemasters new budget label.

1986

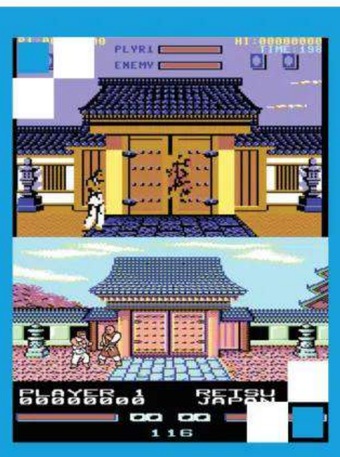
Thomas Rattigan had replaced Marshall Smith as CEO of Commodore, cutting costs and even proposing that Apple take over the Amiga at one point. The big change this year was the introduction of the C64C, the cost-reduced version of the C64. This had a new, sleeker wedge-shaped case in a similar style to the C128. MOS had changed its manufacturing processes, allowing the chips to be made cheaper and increasing Commodore's profit margin on every sale – even at the low US retail price of $150. The newer SID chip – the 8580 – sounded different to the users. Going back to the original specifications eliminated background 'noise' from the chip. This resulted in sampled sounds playing quietly on the new model, disappointing fans. There were also variations in the filter, and Commodore removed the information on the advanced SID features (ring modulation and synchronisation) from the user's guide. The slimmer 1541-II disk drive matched the C64C, with an external power pack.

Commodore updated the C128, with the new D model being like the Amiga 1000 and PCs; the base unit contained a built-in 1571 disk drive, with a separate keyboard. But it did not result in extra 128K-only games. There was also the Goldene Edition from Commodore Germany; a limited edition (of roughly 100) plaques containing an older C64 spray-painted gold. There have been fakes sold online, but the real gold machines are very collectable.

This year saw major changes at *Zzap!64* after the editor of CCI Anthony Jacobsen had criticised it as being a "fluffy, lollipop rag" aimed at children. Roger Kean stepped down as editor with Gary Penn taking over, while Gary Liddon left to take charge of Thalamus. This new software house was funded by Newsfield but independent from the magazines, in response to fans saying it would be a good idea since the reviewers knew all about games. A backlash from rival publisher EMAP and its magazines was hypocritical since it already had its own software company (Beyond, although that label would shortly be taken over by British Telecom/Firebird). Oh, and Alan Sugar's Amstrad bought out Sinclair leading to the new +2 machine; that was heavily delayed by technical issues, continuing the run of Sinclair problems surrounding release dates. But let's not gloat.

AMERICA VS EUROPE

■ A clear difference in design philosophy emerged between the US and Europe. American games were frequently designed to load extra sections from disk. Most British users were still loading from cassette, meaning either cramming the game into a single load or relying on multiload. An example – *Street Fighter* had separate games developed by Tiertex (UK, large sprites) and Capcom USA (small overlaid sprites) that took different approaches.

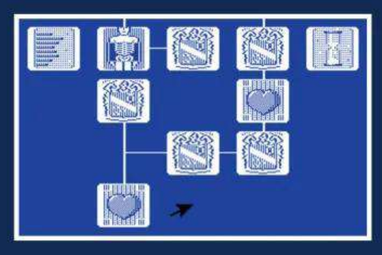


» [C64] David Fox's work on the movie tie-in *Labyrinth* would set the scene for Lucasfilm's *Maniac Mansion*.

"THE BIG CHANGE THIS YEAR WAS THE INTRODUCTION OF THE C64C, THE COST-REDUCED VERSION OF THE C64"

DEFINING GAMES

ALTER EGO



PUBLISHER ACTIVISION
DEVELOPER PETER J FAVARO PHD
HIGHEST SCORE 98% (ZZAP!64)

■ Developed by a psychologist, this stylish and unique icon-driven game spread across multiple disks and asked you to make choices in difficult scenarios as your character aged. There were also separate male and female versions with different outcomes.

DAN DARE: PILOT OF THE FUTURE

PUBLISHER VIRGIN GAMES
DEVELOPER GANG OF FIVE (ANDY WILSON)
HIGHEST SCORE 94% (ZZAP!64)

■ The first of three games based on the classic British comic character, the inventive use of speech bubbles and joystick-based commands gave it a great atmosphere.

LEADERBOARD

PUBLISHER ACCESS SOFTWARE/US GOLD
DEVELOPER BRUCE & ROGER CARVER
HIGHEST SCORE 97% (ZZAP!64)

■ The start of a groundbreaking series and foundation for the later PC titles known as *Links*. From the rotoscoped animation of the golfer's swing to the challenging course design, this is a truly classic golf game.

PSI 5 TRADING COMPANY

PUBLISHER US GOLD
DEVELOPER ACCOLADE
HIGHEST SCORE 9/10 (YOUR COMMODORE)

■ Part of Accolade's brilliant series of games featuring outstanding high-resolution animation. You pick your starship crew (all with different personalities) and try to reach your destination. As enemies attack, your ship accumulates damage and pirates loot your precious cargo.

TRAILBLAZER

PUBLISHER GREMLIN GRAPHICS
DEVELOPER SHAUN SOUTHERN & ANDREW MORRIS
HIGHEST SCORE 93% (ZZAP!64)

■ Originally made for the C16, the C64 version of this racing game added a split-screen two-player mode. The coloured tiles affect your ball in different ways as you race to the finish line. The sequel *Cosmic Causeway* was also technically impressive.

"SIGNIFICANTLY, THE 8-BIT CONSOLES WERE NOW ARRIVING ON UK SHORES"

YOUR MEN FLEE IN PANIC AS THE TIDE OF BATTLE TURNS AGAINST THEM. YOU BRAVELY FIGHT ON AND ARE WOUNDED. YOU ARE IMPRISONED IN ST.KITTS. MONTHS PASS AS YOU AWAIT YOUR FATE.

» [C64] Sid Meier's *Pirates* saw you sailing the Caribbean in a classic based on historical research.

1987

In a lengthy, downbeat editorial for *Zzap!64* issue 23, Gary Penn bemoaned the lack of originality in software. He talked about clones and games that put presentation above gameplay. "Unfortunately, software houses will continue to release repackaged versions of the same old thing, if that is what the customers appear to want. Is this really what YOU want – or is it all you can get?" The next few months proved there was still originality in the industry, with some of the most beloved C64 games ever being released. There were brilliant arcade conversions (including the amazing *Bubble Bobble* developed by Software Creations for Firebird) and innovative ideas (such as Lucasfilm Games' *Maniac Mansion* and the rotating towers of *Nebulus*, as well as the stunning conversion of Ocean's isometric classic *Head Over Heels*).

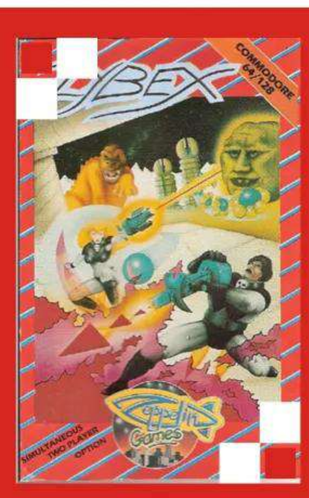
Although Thomas Rattigan's cost-cutting had turned around Commodore's fortunes, chairman Irving Gould ousted him in April and took over as CEO. Commodore was still releasing new machines, with the Amiga 500 entering the fray and becoming a bestseller against Atari's ST – but the C64 continued to sell. German fans could even go to Aldi and buy a new revision of the hardware. This had an off-white breadbin-style case and the cost-reduced motherboard from the C64C.

Significantly, the 8-bit consoles were now arriving on UK shores. Toy company Mattel was distributing the Nintendo Entertainment System, while Mastertronic took the rights to Sega's Master System; the latter sold faster until Nintendo established its own European branch. Mastertronic also tried to launch the Arcadia arcade hardware (based on Amiga hardware to reduce the development costs for home conversions), with familiar games including *Xenon* and other titles based on its own budget games. Arcadia's expensive failure – with poor games such as *Aaargh!*, *Rockford* and *Roadwars* that also had disappointing C64 versions – saw Virgin take over Mastertronic.

In America, Creative Micro Designs (often known by its initials CMD) was formed to sell hardware to C64 users. Its popular JiffyDOS chips were the main initial product, giving faster disk access. In later years it would import European software to the States.

BUDGET GAMES LEVEL UP

■ Mastertronic was the pioneer of the budget game, placing racks in newsagents and other shops to attract casual buyers with cheap impulse buys at just £1.99. Its MAD (Mastertronic Added Dimension) label upped the price to £2.99. Firebird had its Silverbird range, while the Darling brothers had started Codemasters in 1986 after contributing many games to Mastertronic. Zeppelin arrived with original games including *Zybex* and *Bionic Ninja*, Alternative and Atlantis also entered the market. Budget re-releases of older games would become important.



DEFINING GAMES

THE LAST NINJA

PUBLISHER SYSTEM 3
DEVELOPER JOHN TWIDDY
HIGHEST SCORE 94% (ZZAP!64)

■ Based on an idea by Mark Cale and advertised for months, superb isometric graphics from Hugh Riley portray six Asian-themed levels backed by amazing music from Ben Daglish and Anthony Lees. The tricky jumping sections have aged badly, however.

WIZBALL

PUBLISHER OCEAN SOFTWARE
DEVELOPER SENSIBLE SOFTWARE
HIGHEST SCORE 96% (ZZAP!64)

■ Mix colours and blast enemies in this surreal mixture of shoot-'em-up and platform game. This is Sensible Software at its most inventive, with a superb soundtrack from Martin Galway. It remains one of the greatest C64 games ever.

BUGGY BOY

PUBLISHER ELITE SYSTEMS
DEVELOPER DAVE & BOB THOMAS
HIGHEST SCORE 97% (ZZAP!64)

■ Rather than recreate the huge graphics of the arcade game, Dave and Bob went for a smaller buggy and kept up the pace. Obstacles hinder you as you race to complete five courses and collect bonus flags in this superb racer.

SKATE OR DIE

PUBLISHER ELECTRONIC ARTS
DEVELOPER MICHAEL KOSAKA, STEPHEN LANDRUM & DAVID BUNCH
HIGHEST SCORE 92% (ZZAP!64)

■ Former Epyx developers moved to Electronic Arts and unleashed a corking multi-event game based around skateboarding. From half-pipe to downhill races and the gnarly pool jam, a highlight was undoubtedly Rob Hubbard's sampled guitar in the sublime title music.

DRILLER

PUBLISHER INCENTIVE SOFTWARE
DEVELOPER CHRIS ANDREW
HIGHEST SCORE 96% (ZZAP!64)

■ After starting on the Amstrad, the Freescape engine promised filled 3D graphics on an 8-bit machine. While movement was slow, the atmosphere generated by Matt Gray's music and the huge structures of Mitral made this a deep and absorbing game.

» [C64] *The Great Giana Sisters* proved controversial, being withdrawn from sale and becoming a collector's item.

1988

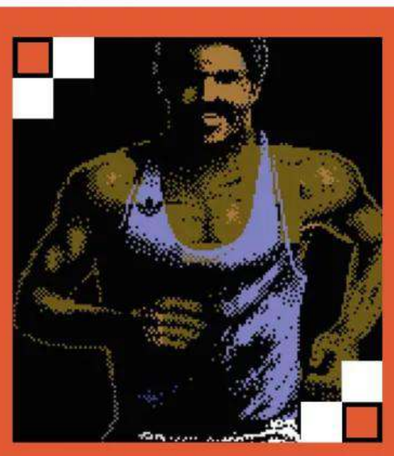
Commodore once again made producing the C64 cheaper with the CR model. This had plastic clips instead of screws holding the case together, and the newer 'short board' version of the main motherboard. In Germany, the equivalent C64G was in the grey/white case first seen with the Aldi edition. There are variations of the C64G, either with the original C64's brown keys or the later C64C grey/white keys. The C128 underwent its final revision, becoming the C128DCR (CR for 'Cost-Reduced', using a metal case to reduce radio interference). Rumours also emerged of a new machine, initially referred to as the 64DX. Bridging the gap between the Amiga and C64, the VIC-III chip (codenamed Bill after engineer Bill Gardei) gave higher resolutions and more colours. The DX would also have a built-in 3.5-inch drive. The company also launched a range of business PCs, but it was never a major player in that field.

Compilations had become good business for the software houses, gathering old games and getting more sales. Beau Jolly – named after the annual rush to get Beaujolais Nouveau wine into British restaurants – had specialised in this area for some time, from the *10 Computer Hits* series that was advertised on TV to the newer *Five Star Hits* series. But two compilations from big-name companies stole the headlines this year. US Gold's *History In The Making* offered an amazing 15 titles. Famous games from Access, Datasoft and Epyx looked back to previous years but contained so much top-level gameplay. It also marked a turning point for the company, moving away from just importing American titles into developing more games in the UK. Ocean's response was *The Magnificent Seven*, showcasing its best games – and adding arcade conversion *Yie Ar Kung-Fu* as a bonus. With the likes of *Wizball*, *Head Over Heels* and Denton Designs' incredible *Frankie Goes To Hollywood* (inspired by the band) it was worth buying – even with the less-than-stellar *Cobra* and *Short Circuit* included.

The popular GEOS (Graphical Environment Operating System) was upgraded to version 2.0. While it was primarily designed for productivity software such as word processing and desktop publishing, this system inspired by the Macintosh's use of windows and icons would see some interesting and well-made games developed for it.

LICENSED GAMES GET BIG

From fast food to toys, licensed games became big business. Ocean became synonymous with films, thanks to Gary Bracey signing up the likes of *Platoon* and *RoboCop*. Sports stars got their own games, with notable names including Daley Thompson and Emlyn Hughes. The nadir would be Activision's licence of *Howard The Duck*, an unplayable mess made worse by the massive multiload.



"RUMOURS ALSO EMERGED OF A NEW MACHINE, INITIALLY REFERRED TO AS THE 64DX"

DEFINING GAMES

ARMALYTE

PUBLISHER THALAMUS
DEVELOPER CYBERDYNE SYSTEMS
HIGHEST SCORE 97% (ZZAP!64)

Huge bosses, gorgeous graphics and an incredible Martin Walker soundtrack combine to make the sequel to Stavros Fasoulas' *Delta* an even greater game. A clever weapons system and simultaneous two-player add interest.

BOMBUZAL

PUBLISHER IMAGEWORKS
DEVELOPER TONY CROWTHER & DAVID BISHOP
HIGHEST SCORE 97% (ZZAP!64)

Tony Crowther and David Bishop's bomb-blasting puzzle game has a unique choice of overhead (2D) and isometric (3D) views. Avoid blowing yourself up to progress through over 100 levels, including designs by Jeff Minter and Jon Ritman, among others.

IKARI WARRIORS

PUBLISHER ELITE SYSTEMS
DEVELOPER JOHN TWIDDY
HIGHEST SCORE 91% (COMMODORE FORCE)

Delayed by his work on *The Last Ninja*, John Twiddy delivered a technically impressive take on the SNK coin-op. With simultaneous two-player and the little tanks to drive around in, this recreated the vertically scrolling run-and-gun game exceptionally well.

MICROPROSE SOCCER

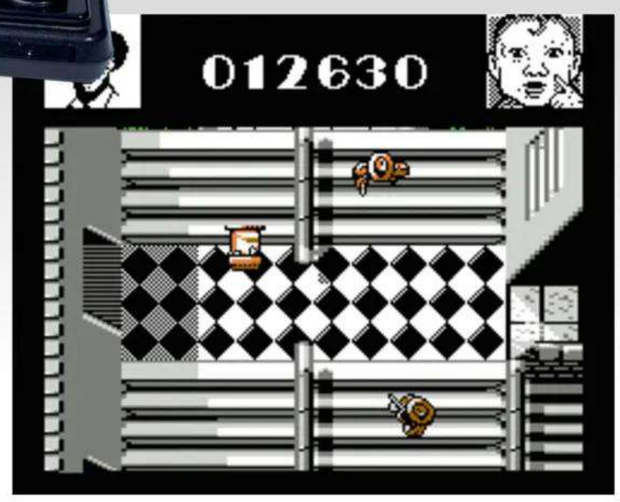
PUBLISHER MICROPROSE
DEVELOPER SENSIBLE SOFTWARE
HIGHEST SCORE 97% (ZZAP!64)

Inspired by arcade title *Tehkan World Cup*, Sensible Software offered this to multiple publishers before getting the MicroProse big box treatment. Action replays, banana shots, weather effects and the hectic six-a-side indoor game make an amazing precursor to *Sensible Soccer*.

PLATOON

PUBLISHER OCEAN SOFTWARE
DEVELOPER ZACK TOWNSEND, ANDREW SLEIGH
HIGHEST SCORE 94% (ZZAP!64)

Simon Butler's design document laid the foundations for future Ocean film tie-ins, taking sequences from the films and building levels around different gameplay styles. The first-person view of the Tunnels is particularly noteworthy, along with Jonathan Dunn's haunting soundtrack.



"THE PROMISE WAS... AT LEAST TWO YEARS BETWEEN A FULL-PRICE RELEASE AND A BUDGET RE-RELEASE"

1989

In Germany, Commodore's sponsorship of football team Bayern Munich was ending. The company continued to sponsor Chelsea in England (from 1987 until 1994), and Paris Saint-Germain (for the 1993-1994 season). But Commodore Germany would use the cartoon image of a Bayern player on the front of its Video Supergame 64 bundle. This featured a C64G, power supply, joystick and a specially-made cartridge. The cartridge contained three games – the classic *International Soccer*, *Colossus Chess 2.0* and *Silicon Syborgs* (a renamed version of the Epyx title *Silicon Warrior*). This bundle seemed to inspire Commodore UK, as we shall see in 1990.

Sadly, Epyx itself was in financial trouble. The company had poured vast amounts into developing its own portable console, known as the Handy, with former Amiga designers RJ Mical and Dave Needle working on the machine. With money running out Epyx licensed the hardware to Atari, which gave it the name Lynx. Epyx concentrated on producing games for the new console, turning its back on the C64. But there would be an excellent C64 conversion of Lynx launch title *Chip's Challenge* to be enjoyed in 1991.

Ocean officially launched its budget label known as The Hit Squad this year, although the label had already been used for the successful series of compilations known as *They Sold A Million*. Games were divided into categories and given release numbers. Puzzle, Movie and Arcade branding made them collectable and looked uniform on the shelf. The promise was that it would be at least two years between a full-price release and a budget re-release.

US Gold's Kixx budget label had emerged the previous year, while Silverbird had been successful in re-releasing old Activision titles and Mastertronic's Ricochet label had its share of classics at a low price. And those Ricochet games often had the benefit of Invade-A-Load (with Rob Hubbard's brilliant *One Man And His Droid* music playing) to enjoy while the main game loaded.

At the top of Commodore, Mehdi Ali was appointed president after his previous role as a consultant advising on restructuring the company. The Amiga had sold over a million machines by now and Commodore seemed to be in a healthy position heading into the new decade.

DEFINING GAMES

CITADEL

PUBLISHER ELECTRIC DREAMS
DEVELOPER MARTIN WALKER
HIGHEST SCORE 91% (ZZAP!64)

Following up the amazing *Hunter's Moon*, the *Zzap!64* diary chronicled Martin Walker mixing up a board game and shoot-'em-ups to create a unique atmosphere. Find switches and extra weapons, even take over enemies, to conquer eight automated citadels.

LASER SQUAD

PUBLISHER BLADE SOFTWARE
DEVELOPER JULIAN GOLLOP
HIGHEST SCORE 92% (COMMODORE USER)

Julian Gollop established the turn-based genre with *Rebelstar* on ZX Spectrum and took it further with this game before he worked on the *XCOM* series. Kit out your marines, complete your missions and then try the fantasy-themed *Lords Of Chaos* as well.

MYTH: HISTORY IN THE MAKING

PUBLISHER SYSTEM 3
DEVELOPER PETER BARON & BOB STEVENSON
HIGHEST SCORE 94%(ZZAP!64)

Taking Greek, Viking and Egyptian myths to form its time-travel story, the superb rotoscoping animation of the main hero is appreciated. Clever puzzles and a hectic shoot-'em-up section play out to an amazing Maniacs Of Noise soundtrack.

SPACE ROGUE

PUBLISHER ORIGIN SYSTEMS
DEVELOPER PAUL NEURATH
HIGHEST SCORE 97% (ZZAP!64)

Years after *Elite*, this mixture of space-trading sim and RPG wowed the critics with its impressive 3D graphics. Cutscenes tell the story as you take on the invading aliens, or just play the Hive arcade game.

SPEEDBALL

PUBLISHER IMAGE WORKS
DEVELOPER ANDREW BOWEN
HIGHEST SCORE 90% (ZZAP!64)

The Bitmap Brothers' classic received a superb conversion. The killer soundtrack by David Whittaker and slick metallic menus give way to fast-paced action as players fight over the steel ball. The sequel, converted by Carl Muller, is also worth playing.

TAKING ON THE 16-BITS

Despite continued attempts to write off the C64, there was no doubt it was still capable of taking on the 16-bit machines. High-profile 16-bit games, such as *Stunt Car Racer*, were getting a C64 conversion, often using the disk drive to load in extra presentation. Original C64 games continued to fly the flag and while prices were rising, they were still less than 16-bit gamers were paying.

» [C64] Impressive 3D tank sim *Battle Command* could use the Annihilator joystick's second button for extra functions.

1990

This was a strange year for Commodore. Its line-up of new machines included the very forward-looking CDTV (based on Amiga hardware) and the backwards-looking C64GS console (see Commodore Consoles Itself). New Amiga models would follow, including the AGA-based Amiga 1200 and the overpriced Amiga 600. Advertising had the tagline, "This Christmas there is a little bit of Commodore in all of us," which nobody understood.

The consoles were on the warpath. The NES came bundled with the *Teenage Mutant Hero Turtles* game in the UK and was a sales juggernaut, catching up with the established Master System. The Mega Drive arrived with *Altered Beast*, heralding the 16-bit console era. Importers could take their chances on the PC Engine and the high-spec Neo Geo. So where did that leave the humble 8-bit computer?

The answer was found reading the newly launched *Commodore Format* from Future Publishing. With the help of several former *Zzap!64* writers, the magazine provided both game reviews and more serious coverage. Every issue came with a covertape (*The Power Pack*) containing previews of new games, complete titles both old and previously unreleased, and occasionally utility software. It soon rivalled *Zzap!64* for sales, which went back to being C64 only. However, *YC* (formerly *Your Commodore*) would go out of business and its writers moved on to the short-lived *Commodore Power* from music magazine publishers Lime Lizard. The letters page of *Zzap!64* was dominated for months by debate about the C65 – the new name for the C64DX. A younger generation of players was being handed down the computer, and the magazines would eventually change their style to accommodate them.

Commodore had promised over a hundred new cartridge titles in time for Christmas, compatible with the computer as well as the C64GS, but the reality was much smaller with only a few publishers backing the system. Commodore's insistence on clamping down on the manufacturers of 'clone' drives such as the Excelerator meant users were forced to pay the higher price for Commodore's own drives.

COMMODORE CONSOLES ITSELF

■ Commodore UK released the C64 Games System (C64GS) – a C64C motherboard in a console-style case, bundled with the Cheetah Annihilator joystick and a four-game cartridge. John Twiddy and Mev Dinc designed the official development system. Ocean had its own development system, based on Paul Hughes' Freeload, and made full use of the cartridge format to create highly playable games (including superb coin-op conversion *Pang*, *Battle Command*, a remake of *Double Dragon*, and film tie-in *Navy Seals* that seamlessly loaded extra bitmap screens.)

» [C64] *Fiendish Freddie's Big Top O' Fun* was one of four games included on the C64GS cartridge.

"COMMODORE HAD PROMISED OVER A HUNDRED NEW CARTRIDGE TITLES IN TIME FOR CHRISTMAS..."

DEFINING GAMES

CREATURES

PUBLISHER THALAMUS
DEVELOPER APEX COMPUTER PRODUCTIONS
HIGHEST SCORE 96% (ZZAP!64)

■ John and Steve Rowlands impressed with shoot-'em-up *Retrograde*, then followed up with this brutally humorous game. Clyde must rescue fellow Fuzzies from hilarious torture chambers, machines designed to maim and kill – after surviving the mammoth horizontally scrolling levels.

LOTUS ESPRIT TURBO CHALLENGE

PUBLISHER GREMLIN GRAPHICS
DEVELOPER MAGNETIC DREAMS
HIGHEST SCORE 92% (ZZAP!64)

■ Young programmer Ashley Bennett pulled off a masterstroke, recreating the fast action of the 16-bit racer from Shaun Southern and Andrew Morris (who were long-term C64 fans). It even manages the two-player split-screen mode effectively.

RAINBOW ISLANDS

PUBLISHER OCEAN SOFTWARE
DEVELOPER GRAFTGOLD
HIGHEST SCORE 96% (ZZAP!64)

■ Cute enemies, themed islands and large bosses – this was a sublime conversion delayed by a dispute between Taito and Firebird, ending up at Ocean Software. Somewhere over the rainbow, all games are this good, with hidden bonuses to discover as well.

SHADOW OF THE BEAST

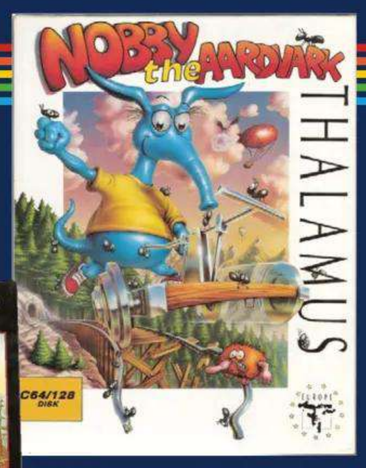
PUBLISHER OCEAN SOFTWARE
DEVELOPER OCEAN SOFTWARE
HIGHEST SCORE 86% (ZZAP!64)

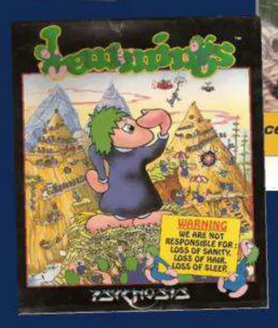
■ Super-smooth parallax scrolling and amazing conversions of the David Whittaker soundtrack set the scene for this 16-bit conversion, made possible by the memory capacity of the cartridge format. While the gameplay remains limited, the spectacle is pretty much intact.

TV SPORTS FOOTBALL

PUBLISHER CINEMAWARE
DEVELOPER ALIEN TECHNOLOGY GROUP
HIGHEST SCORE 92% (ZZAP!64)

■ From the pre-match commentary to the play selection menus, this was an impressive conversion from the 16-bit machines. With a Single Match or Season mode, the disk-only release has depth for fans of American football.





» The last game from Thalamus, *Nobby The Aardvark* featured gorgeous cartoon graphics.

"A RETURN TO BEDROOM DEVELOPMENT AND GAMES SOLD IN PLASTIC BAGS"

» [C64] *Chuck Rock* got an impressive C64 conversion from Italian company Genias.

1991+

The dominance of the 16-bit consoles saw less shop space for 8-bit computers. And then Commodore itself went bankrupt in 1994, after years of mistakes and mismanagement. The botched CD32 launch and the inferior performance of the C64GS – estimates put it at less than 10,000 sold – meant the end for the pioneering company that had brought computers to the masses. The C65 prototypes were sold off as part of the liquidation. Amstrad's 8-bit GX4000 console and the Plus range also failed before Sir Alan bought us the Em@iler. We're still not gloating.

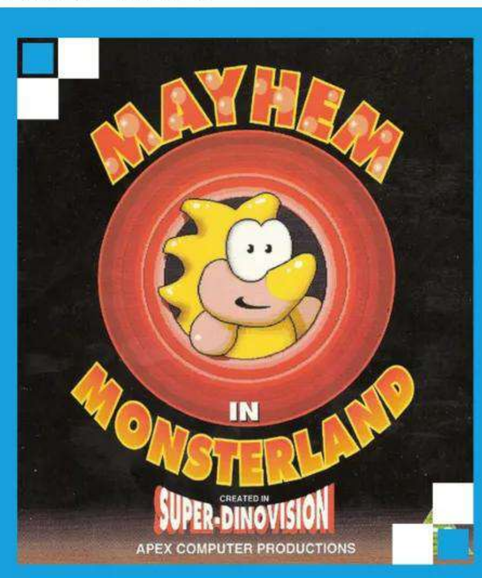
Gradually software houses stopped producing new games, although stalwarts such as Zeppelin and Alternative continued. *Zzap!64* survived the bankruptcy of Newsfield, re-emerged under Europress Impact and rebranded as *Commodore Force* – closing after just 16 issues. *Commodore Format* gamely continued until October 1995 (outliving *Amstrad Action* and *Your Sinclair*) even as its page count dwindled. It was then up to the fanzines and clubs to take over, including *Commodore Scene* and *Commodore Zone* which promoted new games. CMD had launched its own magazine, *Commodore World*, and started selling the SuperCPU accelerator. Its 25MHz co-processor gave a speed boost to classic games but was best used for the outstanding shoot-'em-up *Metal Dust* developed to take advantage of the add-on.

There were bright spots in these dark times. Small developers and companies continued, selling via mail order; a return to bedroom development and games sold in plastic bags with home-printed labels and manuals. Another short-lived venture was EDOS – Electronic Distribution Of Software. The kiosks in John Menzies' shops duplicated the cassette or disk, printing a manual for the generic cases. There was also a mail-order catalogue to buy from, but the kiosks soon disappeared from the high street – along with John Menzies.

There were also many unreleased titles to find. That led to the creation of the excellent website Games That Weren't by Frank Gasking. The digital archaeologist and his dedicated team have tracked down developers and thoroughly researched what happened to many anticipated titles. Successes included *Daffy Duck*, *Solar Jetman* and what remained of *Deadlock* by Cyberdyne Systems. Elusive games such as *Murder* by US Gold and Konami's *Batman Returns* remain undiscovered.

MAIL-ORDER RESURGENCE

■ It was down to mail order to supply the remaining C64 fans, as full-price games became budget re-releases in just a few months. Companies such as Alternative started selling off stock directly and magazine pages were dominated by sale listings from resellers. The swansong *Mayhem In Monsterland*, hyped up by *Commodore Format*'s diary and 100% review, was marketed directly to the customer. Small homebrew publishers such as Psytronik emerged, trying to fill the gap.



DEFINING GAMES

SMASH TV

PUBLISHER OCEAN SOFTWARE
DEVELOPER PROBE SOFTWARE
HIGHEST SCORE 97% (COMMODORE FORMAT)
YEAR 1991

■ Nick Jones nailed the essence of the classic Williams coin-op, even managing to include a dual-joystick control option. Large numbers of enemies attack constantly and there are formidable bosses to defeat, backed by a brilliant Jeroen Tel soundtrack.

TURRICAN II: THE FINAL FIGHT

PUBLISHER RAINBOW ARTS
DEVELOPER MANFRED TRENZ
HIGHEST SCORE 96% (COMMODORE FORMAT)
YEAR 1991

■ The original *Turrican* by Manfred Trenz had been mind-blowing, but the sequel pushed the C64 even harder. Massive scrolling levels, in-game music, incredible bosses bigger than the screen and three shoot-'em-up levels make for a truly incredible sequel.

MAYHEM IN MONSTERLAND

PUBLISHER MAIL ORDER ONLY GAMES
DEVELOPER APEX COMPUTER PRODUCTIONS
HIGHEST SCORE 100% (COMMODORE FORMAT)
YEAR 1993

■ John and Steve Rowlands pushed the C64 hard to create this fast-paced console-style game, with *Mayhem* turning the Sad levels into Happy ones by collecting Magic Dust and then gathering stars. It boasts gorgeous graphics, superb sound and amazing presentation.

LEMMINGS

PUBLISHER PSYGNOSIS
DEVELOPER E&E SOFTWARE
HIGHEST SCORE 97% (COMMODORE FORCE)
YEAR 1994

■ A Dutch team took on the seemingly impossible task of converting the 16-bit puzzler and succeeded in style, from the amazing intro to the smooth mouse controls. Spanning six disk sides, this deserved the high review scores it received.

METAL WARRIOR

PUBLISHER N/A
DEVELOPER COVERT BITOPS
HIGHEST SCORE N/A
YEAR 1999

■ Coder Lasse Õörni started this amazing series of homebrew games set in a near-future city, where you perform errands and play in a metal band with a combination of gunplay and exploration. Remade recently as the outstanding *MW Ultra*.

2000+

The Internet helped keep the Commodore 64 alive during the Noughties. Huge archives such as Gamebase64 with 30,000 games (gb64.com) and the High Voltage SID Collection with over 55,000 tunes (hvsc.c64.org) showed how much interest there still was. While the Commodore trademarks and properties changed hands, fans were keeping the spirit alive. Crackers produced 'jewel' releases of old games, adding documentation and cheats, as well as fixing bugs.

The bizarre Web.It machine was an early example of exploiting the trademark, sold on the strength of its built-in C64 emulator and easy Web access. Hardware hacker Jeri Ellsworth went one better and worked on the C64DTV, a plug-and-play console shaped like a classic Competition Pro joystick with 30 built-in games from publishers including Epyx and Hewson. The C64DTV would be hacked and added to, from soldering on an SD card to adding a keyboard or being turned into a mini-PC in a case. It would be the precursor to other hardware forms (see Continuing Comeback).

The demo scene continued to impress and astound, with great art, music and technical trickery. Parties held online and in-person generated more original work. Fan groups on social media led to the creation of #C64month on Twitter every August, celebrating the retail launch back in August 1982. The popular emulators including CCS64 and VICE (Versatile Commodore Emulator, capable of emulating multiple Commodore 8-bit machines) developed quickly and appeared on many machines. VICE was also at the heart of the official emulation package, Commodore Forever from Cloanto, the company that holds the rights to the ROM images.

The remix scene formed around RKO (remix.kwed.org) and Remix64 (remix64.com). To complement the CDs and MP3s, live music arrived in the form of the Back In Time events organised by Chris Abbott (c64audio.com), culminating in the amazing 8-Bit Symphony performed live in 2019 with the Hull Symphony Orchestra. Companies such as Psytronik and Protovision set the standard for boxed releases, with RGCD producing fantastic cartridges (including the astounding demakes from Paul Koller) and indie developers are picking up the torch.

CONTINUING COMEBACK

There are many options to get your C64 fix – emulation, digital downloads, USB cassettes, disks, and cartridges. Fast-loading options such as Kung Fu Flash and 1541-Ultimate II make things easier, and The C64 Mini and The C64 from Retro Games Limited plug into modern TVs. The incredible MEGA65 is based on Commodore's plans for the unreleased Commodore 65, and the Ultimate64 motherboard has HDMI output and support for twin SID chips.

"FAN GROUPS ON SOCIAL MEDIA LED TO THE CREATION OF #C64MONTH ON TWITTER EVERY AUGUST"

DEFINING GAMES

BOMBERLAND

PUBLISHER RGCD
DEVELOPER SAMAR
HIGHEST SCORE N/A
YEAR 2013

There had been multiple attempts, but Samar created the ultimate C64 take on *Bomberman*. With an adaptor, you can have up to five players in multiplayer mode, and there's a single-player campaign to take on as well.

SAM'S JOURNEY

PUBLISHER PROTOVISION
DEVELOPER KNIGHTS OF BYTES
HIGHEST SCORE N/A
YEAR 2017

Announced on April Fool's Day, this was no joke – a superb platformer that challenged *Mayhem* for the crown. Collect costumes with special abilities, find hidden secrets and explore massive levels for diamonds in an epic game that you must play.

STEEL RANGER

PUBLISHER PROTOVISION
DEVELOPER COVERT BITOPS
HIGHEST SCORE N/A
YEAR 2018

Lasse Õörni improved his game engine (and Goattracker music routine) to produce this *Metroid* and *Turrican*-inspired title, with a ship crashing on an alien world populated by machines. It even has its equivalent of the Morph Ball.

THE BRILEY WITCH CHRONICLES

PUBLISHER WITCHSOFT
DEVELOPER SARAH JANE AVORY
HIGHEST SCORE 95% (RETRO GAMER)
YEAR 2021

Sarah Jane Avory's superb shoot-'em-ups (*Zeta Wing* and *Soul Force*) are recent hits, but this deep RPG has so much character, based on Sarah's own novels. An entertaining RPG with some very witty dialogue.

SONIC THE HEDGEHOG

PUBLISHER N/A
DEVELOPER MR SID
HIGHEST SCORE N/A
YEAR 2021

Reverse-engineering the Master System game, Andreas Varga (who also made a *Prince Of Persia* conversion) used Commodore's RAM Expansion Unit to create a silky-smooth scrolling engine that recreated Sonic's first 8-bit adventure.

WE ARE 64

KEY PLAYERS IN THE C64 SCENE, THEN AND NOW, SHARE THEIR MEMORIES

JEFF MINTER

FOUNDER OF LLAMASOFT

"I first saw a C64 towards the end of 1982, possibly at the PCW show. I think Rabbit Software had an imported one on display, but I can't really remember what it was running – nothing particularly amazing, obviously. Then at the same show, Jay [Balakrishnan] from HES gave me a US C64 of my own. I was much more impressed when I could actually use one. Sprites seemed like magic!

"The C64 era was a great time in my life. I had a good bunch of mates I'd hang out with all the time, and I could make a decent living by doing something I really enjoyed. That little machine gave me some of my best years. It was a significant platform that launched the careers of many a coder who would go on to be foundational members of the corporate 'games biz' that arose as the more idyllic early days drew to a close. It's technically interesting enough that people are still wringing new effects out of it, decades later."

CHRIS ABBOTT

C64 MUSIC GURU

"As we celebrate the C64 and its revolutionary SID chip, I can't help feeling that history has been largely dismissive of the ol' breadbin. They say the winner writes the history, and it's the consoles, backed by big money and big IP, that have taken the lion's share of history's plaudits. C64 software houses came and went, and it was up to fans to keep the history alive. Nevertheless, the contributions of Rob Hubbard, Martin Galway and Ben Daglish are largely forgotten and overlooked. Even NES chiptune fans seem to believe SIDs are an atonal mess.

"I'm working full-time on correcting this, from the orchestral stuff that proves that C64 music is worthy, to my books about sound chips and Rob Hubbard explaining in detail what he did, when he did it, and how he did it. It's an uphill struggle when the gatekeepers believe the only videogame music worth mentioning is *Final Fantasy*, *Mario* and *Zelda*, but I'm putting a lot of C64 resources into the educational sector. Let's see if we can't create a whole new audience!"

ANDY WALKER

FOUNDER OF TASKSET

"Taskset grew from arcade game development with custom hardware, but our roots were in the 6502 [CPU] so when we heard about the C64, we knew we had to have one. And what a fabulous machine it was, obviously designed by gamers for gamers – and by smart businessmen with their own chip fabrication plant.

"Home computers were developing at a truly breath-taking speed and if you blinked, you missed the magical one. We were writing 100% Assembler for the VIC-20 and Oric, both 6502 machines, and the C64 blew them away. We knew it would be a massive seller and best of all we could dazzle with this hardware. The fabulous VIC-II and SID chips were the foundations of a generational leap in gaming technology, and it was a joy to drive them.

"I'm very proud of the Taskset C64 titles. You won't be surprised to hear *Super Pipeline II* is my favourite. We knew how to write games and how to present them. The C64 was easily the best in class and allowed us to narrow the gap from arcade to home games."

FRANK GASKING

AUTHOR OF GAMES THAT WEREN'T

"My first C64 experience was aged six at my elder sister's house in early 1988, seeing the iconic US Gold stars and stripes loader for *Buck Rogers*. I'd seen arcades, but never anything like this at home. Desperate for my own, my mum eventually obliged with a Light Fantastic pack in 1990, providing a magical memory of unpacking it and playing the likes of *Batman*. I would visit local shops and discover new games, get monthly magazines with their covermounts, and make my own games. Everything culminated in an interest in unreleased games and preservation and Games That Weren't was set up to recover many famous lost C64 titles.

"I never got rid of my C64, and still play games regularly. I've lived through bright times, dark times and now (thanks to the internet) through an amazing resurgence, where a great community produces new games on a regular basis once more. The C64 has provided so much joy over the years and continues to do so."

TONY CROWTHER

PROLIFIC C64 CODER

"I was 18, had just finished my A-levels and was planning my future when the Commodore 64 appeared on the scene. I had a Saturday job at Superior Systems in Sheffield, selling computers to the public. My parents had bought me a VIC-20 for Christmas, and I wrote a maze game called *Amazing* for it. The shopkeeper was impressed and asked if he could sell it in his shop. He then offered me a Commodore 64 for free if I wrote him six games. I took him up on the challenge and wrote *Balloon Rescue*, *Aztec Tomb*, *Damsel In Distress*, *Brands*, *Bat Attack* and *Squash A Frog*, all released under the Alligata logo. The first ones were written in BASIC, but I soon moved on to machine code, using a one-line assembler I wrote myself. The games weren't fantastic, but they got me hooked on programming and allowed me to train myself. Things started to get interesting for me when I did *Killer Watt*. I was flown up to Aberdeen to do an interview for [TV show] *Bits 'N' Pieces*. It's still my favourite of my C64 games."

VINNY MAINOLFI

EDITOR OF FREEZE64

"My first home computer was a TRS-80 Model 1 and I fell in love with it. I was in the Tandy shop in Bletchley all the time. I got to know the manager and I told him I'd saved up enough money and I was going to upgrade to a Tandy Color Computer. He looked at me and said, 'Nah, don't do that. Get yourself a Commodore 64. We're not selling them at the moment so take your money down to John Menzies and buy that instead.' Because of him, I became a C64 freak, and I know it's going to be with me for the rest of my life. I'm not going to be a saddo and get buried with it because there's more to life than a computer but it's the thing that keeps me sane and happy. Every day is a Commodore 64 day and that's the honest truth. A day doesn't go by where I'm not hacking, coding, writing, testing, or discussing all things C64. Life wouldn't be the same without it."

GARY PENN

EDITOR, ZZAP!64

"I think *Zzap!64* played a significant role in cementing the C64's legacy, just by being in the right place at the right time. There was this tribal thing going on and we definitely contributed to that. We provided a focal point. 'Bible' is a bit strong but there are parallels with cults and religions. Not in a sinister way but in how people would congregate around a certain thing and want to be part of a community. People love being in a tribe. We were a voice, a representative for the machine. We provided a 'binding service'.

"I sometimes play C64 games via emulation. *Zolyx* is so good and *Jumpman Junior* is full of fucking brilliant ideas. People were trying shit out at the dawn of the medium and there are some real gems. I still have an SX-64, the portable one – though it's so heavy, it really needs wheels – and I have some demo disks, including a version of *The Sacred Armour Of Antiriad*, which the Palace Software boys did for my birthday. It's called *Antodgerad* and the main character has a massive cock. A lovely gift."

DAVID CRANE

PROGRAMMER OF LITTLE COMPUTER PEOPLE AND GHOSTBUSTERS

"A lot of people don't realise that for people like me who have been in the videogame business for parts of six decades, a new [system] is a mixed blessing. Imagine, in whatever your job might be, that every two years or so, everything changes. The tools you have been using are now obsolete, the deepest knowledge, or, if appropriate to your job, the finest motor skills you have been using, have to be completely unlearned. Like with many other game [systems], that was the introduction of the C64 for developers. We needed to create new development systems, new compressors/decompressors, new audio and sound effects drivers and, in many cases, new sprite-drawing tools. It was a massive amount of work – and required redesigning ourselves.

"That said, once all of the work was done, making games for the C64 was great fun. With an integrated keyboard and great backgrounds, sprites and colour modes, the games could be next generation. It even had a usable interrupt to help with real-time code execution. See my brochure that let you create a running Pitfall Harry by typing a program in BASIC!"

INSIDE THE Nintendo ENTERTAINMENT SYSTEM

FOR MANY PLAYERS, NINTENDO'S 8-BIT HARDWARE WAS THE DEFINING CONSOLE OF ITS GENERATION. WE SPEAK TO NES DEVELOPMENT VETERANS ABOUT DEVELOPING THE GAMES MILLIONS GREW UP WITH, AND FIND OUT HOW A NEW GENERATION OF CODERS DEVELOP FOR THE SYSTEM TODAY

WORDS BY NICK THORPE

The Nintendo Entertainment System, and its Japanese counterpart the Famicom, need no introduction – if you're reading this magazine, you'll know that the 8-bit hardware catapulted Nintendo to a position of global leadership in the videogame business, and hosted the first iterations of countless classic series. Though marketing played an important role in this commercial and cultural success, it wouldn't have been possible without the hardware. After all, the ColecoVision and the Atari 5200 were less than a year old when the Famicom launched in Japan in 1983, and the 3DO and Atari Jaguar were on the market by the time developers finally abandoned the NES in 1994. A machine simply can't stay relevant for that long without hardware that's flexible enough and capable enough to keep up with the changing tastes of gamers. But the NES wasn't just a titan of its time – plenty of developers are creating new games for the hardware, pushing it harder than ever with modern development tools.

Two CPUs and their derivatives dominated the home hardware scene of the Eighties – the Zilog Z80, as seen in the ZX Spectrum, ColecoVision and Master System, and the MOS Technology 6502, which featured in the Atari 5200, Apple II and Commodore 64. Nintendo's engineer Masayuki Uemura opted for the 6502 for the NES, primarily because it was small enough that a chip could also include sound capabilities. In 2016, the late engineer told **Retro Gamer** that this choice caused "a huge problem within the company" as Nintendo's hit arcade game *Donkey Kong* had used a Z80 and the source code couldn't be reused. Consideration for any programmers outside of Nintendo wasn't a priority, as the company didn't initially intend for third-party publishers to be part of its business model.

Of course, the success of the hardware in Japan and North America eventually necessitated third-party development just to keep up with demand for new games. The system didn't have the same impact in the UK, which is why programmer Paul Machacek didn't encounter one until 1988, when he joined Rare – one of the few UK developers to concentrate on Nintendo's system. His previously published games had been written for Z80-based computers, and he was initially tasked with writing for the Z80-based RAZZ arcade board, but he was soon asked to work on a NES project. Fortunately, Paul was familiar with 6502 assembly code from his time as an Oric-1 owner. "I picked it up pretty quickly again," he says, "but forgot about all the number juggling you did on it compared to the Z80 as 6502 has so few registers, but alternatively had the fast zero-page storage."

The development environment that Paul worked with was rather basic. "Originally at Rare everyone used PDS (Programmers Development System) which was a text editor and code assembler. We had home-built interface cards that plugged into the

» It might look rather unassuming, but there was a lot going on under the NES' exterior and many developers took advantage of that.

PAUL MACHACEK
RARE

KEVIN BAYLISS
PLAYTONIC, FORMERLY RARE

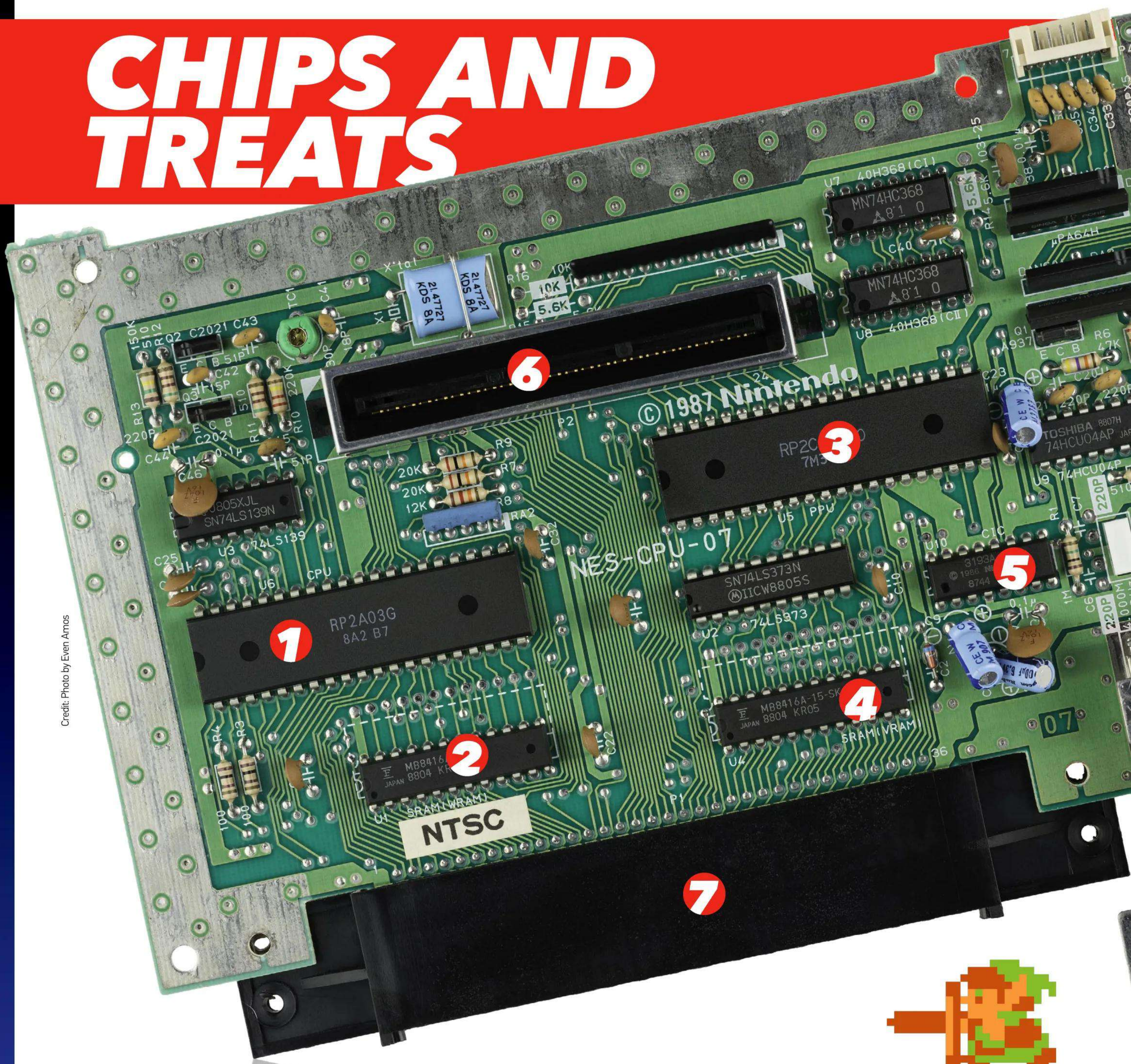
JAMES DEIGHAN
MEGA CAT STUDIOS

NIÇOLAS BÉTOUX
MORPHCAT GAMES

JULIUS RIECKE
MORPHCAT GAMES

MIKAEL FORSLIND
ELDEN PIXELS

CHIPS AND TREATS



Credit: Photo by Even Amos

1 The 2A03 chip serves as both the 6502 CPU and sound generator for the NES, and was manufactured by Ricoh. In PAL consoles, this is the 2A07 instead.

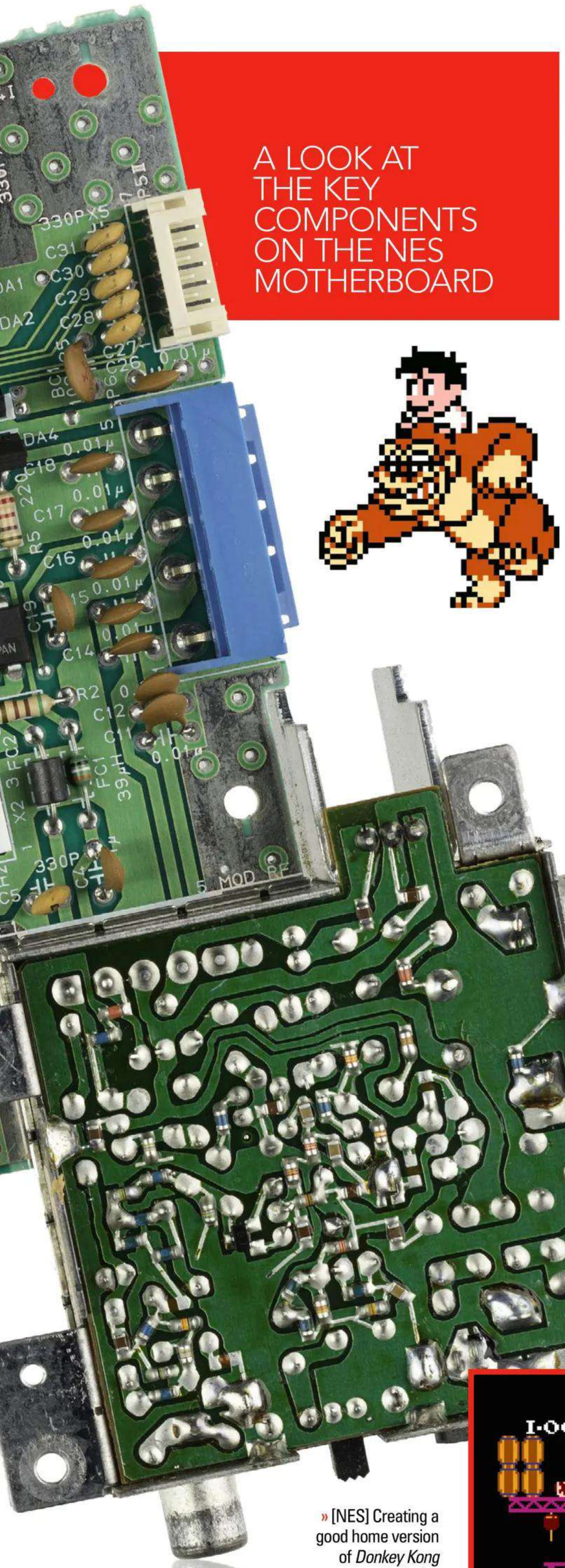
2 This chip is the system's main work RAM – a rather tiny 2KB, which is fortunately enough, paired with the rather speedy data transfer of the NES's ROM cartridges.

3 The 2C02 is a custom chip by Ricoh, the Picture Processing Unit. It's responsible for the advanced graphical features that the NES offered over the competition.

4 This part of the board is where you will find the RAM for the PPU. Just as with the CPU, this is a rather small 2KB chip that doesn't allow for much more than the bare minimum.

5 This is the 10NES, the infamous lockout chip for Nintendo's 8-bit console. You can find out more information about this chip by reading Protection Racket on page 27.

6 Here's the expansion port – a feature that allowed for the potential to connect devices like a floppy disk drive. However, it never saw any real-world use.



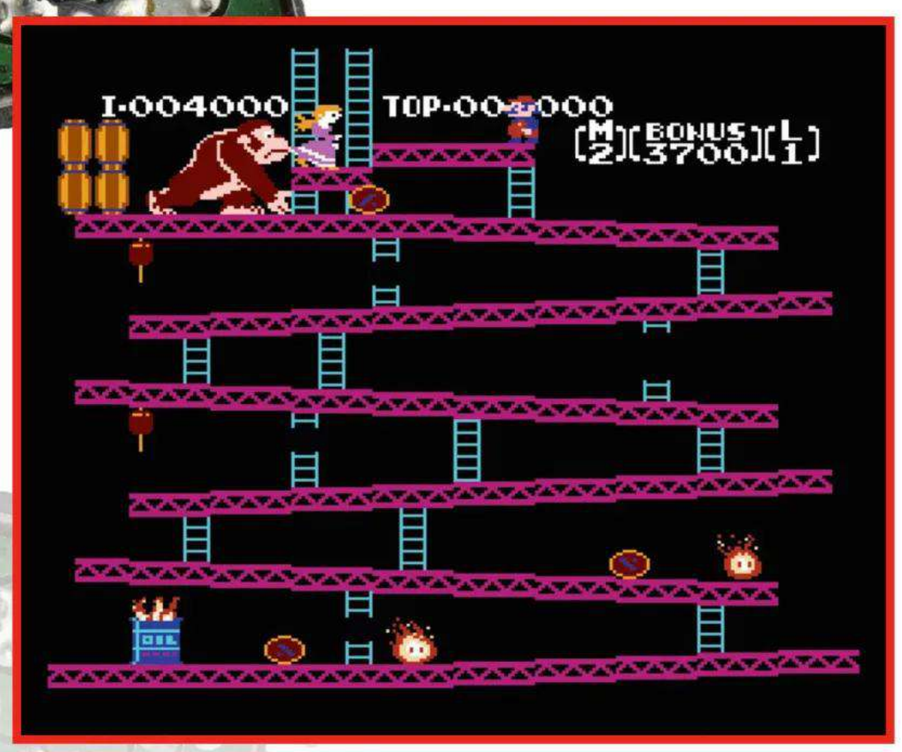
A LOOK AT THE KEY COMPONENTS ON THE NES MOTHERBOARD

cartridge slot on the NES, and they were attached by a ribbon cable to our PCs that ran PDS," he explains. "We had no network. The PCs were Amstrads with 20MB (not a typo) hard disks. Every time you assembled your code – it was all done in one go, we didn't have linkers yet – the full binary would copy over the ribbon cable to the interface card and you'd run your code on the target machine. As for documentation we just had the standard NES manual, which had a few typos in that needed to be corrected otherwise things wouldn't work, and also your handy 6502 instruction set guide for occasional reference, especially if you wanted to write self-modifying code."

If you're a programmer wincing at that, it gets worse. "There were no debug tools as you'd know them today," Paul continues. "There were tricks for finding out where your code got to before things went wrong, like writing values into a memory location and seeing which one was written last before it crashed, then using a bisector search to narrow down to the offending code. For performance testing you normally had some visual change on the screen (offset a screen horizontal scroll register, or alter a colour palette) at the start of a function, and then reset it at the end so that you could 'measure' how long it took on-screen by drawing marks with marker pens around this visible indicator, and seeing if the marks got closer together as you continued to optimise your code. Yes folks, these were the days you measured code performance in inches!"

That sounds like a fairly awkward way to work, but Paul just sees it as a product of the circumstances at the time. "We did what we had to do back in the day. Folks, go back 35 years, develop what we did with the tools that we had on the systems that we used and tell me you wouldn't end up doing something similar!" Fortunately, this situation would eventually improve for Paul and his colleagues. "After a few years Rare contracted Jon Ritman, a close associate, to write a new system called GLAM [Global Language Assembler Monitor] to replace PDS. GLAM could target a wider variety of processors and had a linker as well as assembler so you didn't have to assemble your entire codebase every single time you changed anything, which speeded up development. GLAM worked really well."

> DEVELOP WHAT WE DID WITH THE TOOLS THAT WE HAD ON THE SYSTEMS THAT WE USED AND TELL ME YOU WOULDN'T END UP DOING SOMETHING SIMILAR!
>
> **PAUL MACHACEK**



» [NES] Creating a good home version of *Donkey Kong* was a priority for Nintendo in 1983.

Ultimately, 6502 programming wasn't a big problem for Paul in transitioning to a new platform. "For me the larger adjustment was going from home computers with bit-mapped screens, to the character-mapped system of the NES, with separate colour palette designations, character banks (and swapping) and memory bank-swapping on the carts," he remembers. Nintendo's Picture Processing Unit – PPU for short – was a custom design by Ricoh, and according to Nicolas Bétoux of Morphcat Games, "Compared to other hardware of that time, the graphics and scrolling capabilities were great."

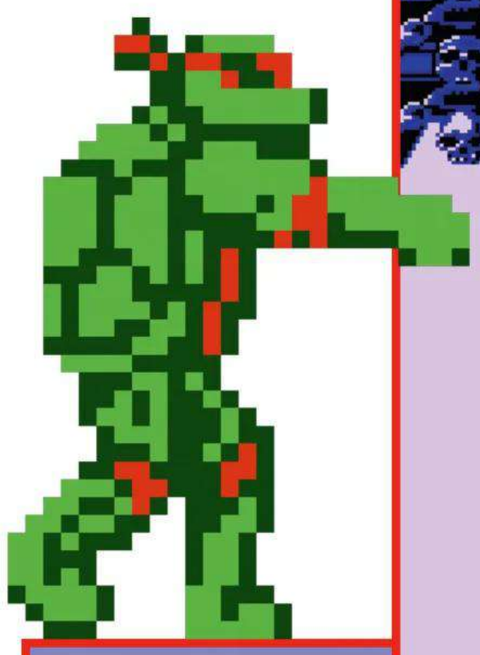
Indeed, when the Famicom launched in 1983, its closest competitor in Japan was Sega's SG-1000. The Famicom's graphical capabilities were clearly superior – it had a palette of over 50 colours compared to just 16 on Sega's system, sprites could have three colours each as opposed to just one, and screens could be scrolled on a per-pixel rather than per-character basis, resulting in a considerably smoother look. Nintendo's hardware could also display more sprites overall, and more sprites per scanline. Sega introduced the graphically superior Mark III hardware in 1985, meaning that competition took place on a more even footing by the time the NES and Master System made it to international audiences.

While Nintendo's 8-bit hardware had advanced graphical capabilities, the methods used to create those graphics were anything but advanced. Like Paul, artist Kevin Bayliss had never encountered a NES before creating games for the system. "On my first day at Rare, Tim [Stamper] showed me the basic 'pixelation process' and taught me how to create work that could actually be put into a game," he tells us. "I had to basically draw my artwork and place it beneath a grid sheet on

7 This is the cartridge connector, which can actually be pulled free from the motherboard. A design flaw means these often fail with age and need to be replaced.

» [NES] In Japan, edited *Excitebike* tracks could be saved to audio cassettes.

» [NES] The large characters of *Creepy Brawlers* were the most challenging task Mega Cat Studios has attempted.



» [NES] *Super Mario Bros* was considered the limit of what the basic NROM mapper could do.

» [NES] *Gradius* was one of the earlier games to go beyond the basic NROM mapper.

▶ a large drawing board filled with fluorescent strips. I'd then trace over my drawing by using the grid to define pixels with a pencil, and then I'd use felt pens to fill out the pixels. Then the work had be organised and split into boxes (8x8 sprites) and the sprite data and position data all had to be worked out in hexadecimal, in my head. This was pretty easy but a bit laborious at times, and you often didn't want to do this job because it wasn't at all creative. You just wanted to see your work in the game."

If you're baffled by the lack of a computer in that process, you're not misunderstanding anything. "There were *no* tools other than the pen, pencil, paper and a surgical scalpel for scribbling out your mistakes on the tracing paper when you put a pixel in the wrong place, or wanted to chop pixels off a character to allow it to squeeze into less data," Kevin clarifies. "There was a simple sprite editor that Mark Betteridge wrote but this wasn't really used because it was very limited and didn't allow you to view your animation (as they do in all of the old Disney 'behind-the-scenes' footage – by flipping your paper back and forth to create the illusion of animation)."

Since NES development tools weren't standardised, a variety of different art tools were used by different companies. Nintendo did use hand-drawn sprites at one point, but eventually created a mouse-driven pixel-art tool, while Namco had a sprite-editing tool that did have the animation preview facility that Kevin describes. However, he enjoyed the low-tech approach employed at Rare. "It was actually quite nice to have a limited palette. I mean, there's no way you could have drawn all of your graphics on paper for any 16-bit console because you'd never have enough pens, and it would have taken all day to decode – and you would have made so many mistakes – it would have been impossible," he says. "But due to the simplicity of the colour palette and the low resolution and small number of sprites that we mostly dealt with, making graphics on paper was actually quite fun and felt a lot more 'organic' than creating them digitally on the SNES, so I guess there's something to be said for that."

No matter how a developer created art for the NES, technical limitations played their part in the final results. "Sprites per line (more than 64 filled pixels in a horizontal scanline) were a problem so you'd try not to make characters very wide," Kevin explains. For instance, in particular I remember all of the characters for the *WWF* games I did had to either 'fall back' or 'lie on the ground' and of course that meant that they'd be quite wide in that pose. So you'd often try to angle them or be clever with the pose, but you'd never really avoid it. You can see how the characters often flash on and off particularly in beat-'em-up games like that, and

DISK-O INFERNO

WHAT HAPPENED WHEN NINTENDO SWAPPED CARTRIDGES FOR FLOPPY DISKS?

Credit: Photo by Evan Amos

■ By the time the NES was receiving its test launch in the USA, Japanese developers were reaching the limits of what they could achieve with the basic Famicom cartridge, which offered a mere 32KB of program data and 8KB of graphics data. Nintendo looked to the home-computer market to solve the problem, and decided that floppy disks were cheap to manufacture and offered a number of advantages for both players and developers.

The Famicom Disk System utilised double-sided floppy disks with a relatively large total capacity of 112KB. Hardware interfaced with the Famicom via the cartridge slot, and featured 32KB of program cache RAM and 8KB of RAM for graphics, as well as an additional wavetable-lookup synthesis sound chip. The benefits of that extra sound hardware can be heard when comparing Famicom Disk System games like *The Legend Of Zelda* to their international ROM cartridge counterparts. The rewritable disks allowed players to save their data, and by using special kiosks in stores they could even write whole new games to the disks for a discounted price. Nintendo pushed the new format hard, releasing its first-party games exclusively on the Famicom Disk System during 1986 and most of 1987.

As is often the case with add-on technology, the high initial price of ¥15,000 put players off, but that wasn't the only problem – floppy disks proved to be slower to load, more fragile and even easier to pirate than cartridges. Although some third parties such as Konami got on board, the likes of Namco, Capcom and Hudson Soft preferred to stick to cartridge releases. But the biggest issue was that by including bank-switching chips on board, the storage limitations of cartridges could be overcome and additional features could be added to games, whereas the Famicom Disk System spec was totally fixed.

Sales of the Famicom Disk System stalled after a strong first year, and beginning in 1988 Nintendo reverted to ROM cartridges as the media for its major games such as *Super Mario Bros 3*, *Mother* and *Fire Emblem*. Plans for an equivalent device for the NES had been announced in early 1986, with a projected launch of Christmas that year. However, these plans were never realised and by mid-1987 they were obsolete as notable games that had launched as disks in Japan reached the NES in cartridge form, including *Metroid*, *The Legend Of Zelda* and *Castlevania*.

it was a problem all companies had to deal with as best they could." That characteristic flickering is actually a clever programming workaround – the NES would simply skip pixels if too many sprites were displayed, so rapidly cycling sprites on and off at least ensured they'd all be displayed in some form.

In fact, NES developers often had to get creative to realise their visions – such as the huge boss characters Kevin drew for *Cobra Triangle*.

"With *Cobra Triangle* we were lucky because the game took place in an isometric environment, so all the graphics were viewed from an angle which reduced the amount of width that you'd normally see in a horizontally scrolling game," he says. "The boss characters were all a collection of large sprites and we could use the surface of the water to make things appear submerged by adding a few 'ripple' sprites around them at the base. So for instance the sea monster (Nessie) character I created was quite tall, and the humps behind her moved around independently, and because of the angle, there wasn't very much in the way of sprite flickering."

> "THERE WERE NO TOOLS OTHER THAN THE PEN, PENCIL, PAPER AND A SURGICAL SCALPEL FOR SCRIBBLING OUT YOUR MISTAKES"
> **KEVIN BAYLISS**

The limitations became more difficult to deal with when developing licensed games, as Rare often did. "For *WWF* wrestling games we had to make sure there was a good likeness with the characters. So it was hard to 'digitise' the photographs by hand and reproduce the characteristics of everyone accurately when you had only got about 16x16 pixels for a character headshot on the select page," says Kevin. "I remember getting these awful quality faxes with pictures of the wrestlers on and I was supposed to try and recreate them using such low resolution and three colours." This did lead to some funny experiences, though. "A lot of the time I'd get faxes back from America saying that, 'The graphics were in need of some attention,' because the likeness wasn't quite close enough," Kevin continues. "Then I'd change like, one pixel and then I'd get a fax back the next day saying that the image was much better. It really made me laugh ▶

PICTURE IN PROCESS

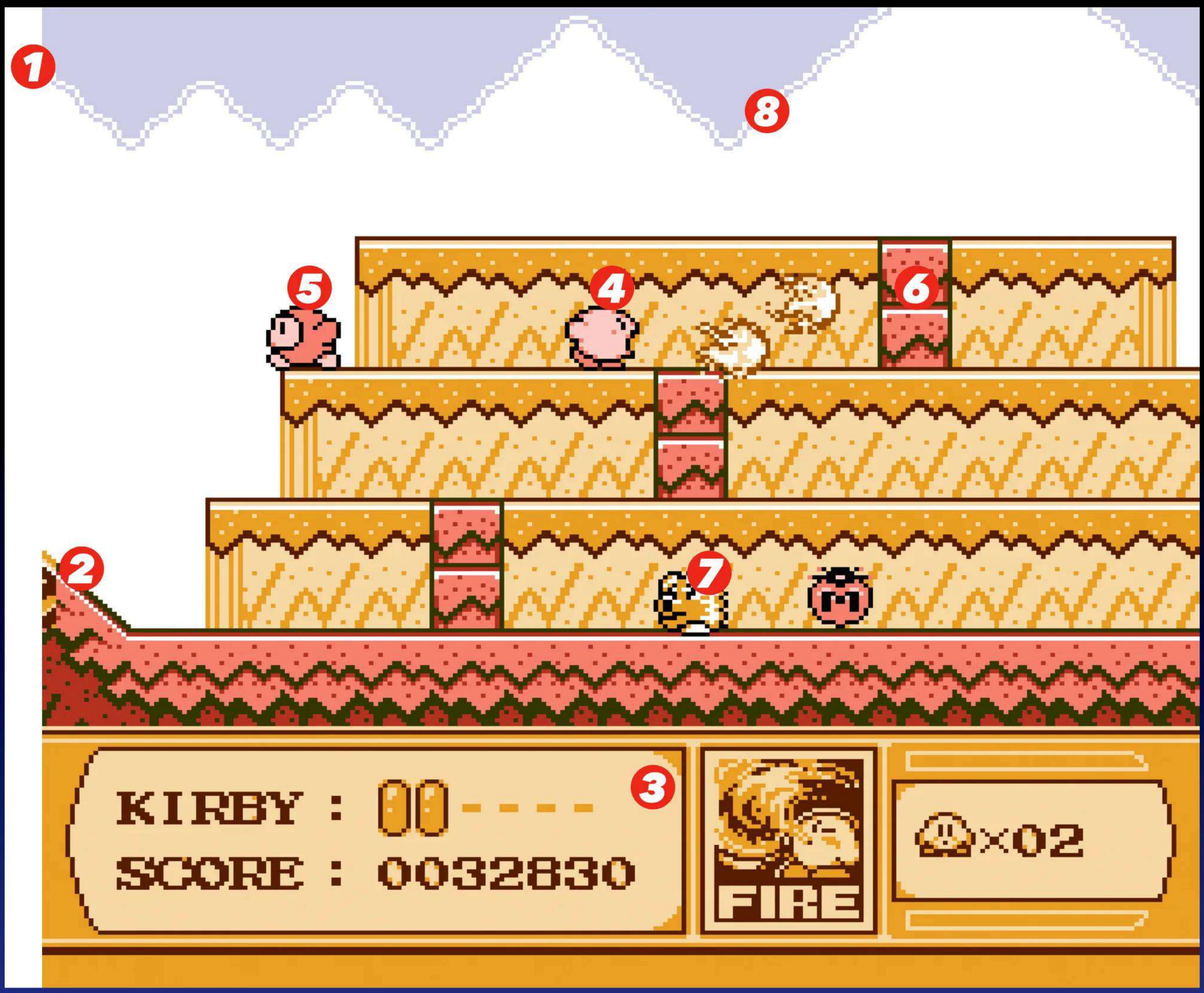
WHAT MAKES UP A NES GAME SCREEN?

1 If a game scrolls both horizontally and vertically, the limited graphical RAM of the NES means tiles can't be drawn in ahead of the current screen position. This border helps to mask glitches caused by this quirk.

2 Although background tiles are 8x8 pixels, 16x16 areas must use the same colour palette. Here, you can see that the leftmost 16x16 grid has taken on the colour attributes from the tiles loading in on the right.

3 *Kirby's Adventure* takes advantage of the MMC3 chip's interrupt request feature to draw this status bar at the bottom of the screen. Reducing the vertical display area ensures a lack of scrolling glitches.

4 NES sprites are limited to four colours, though the need for a transparency marker normally drops that to just three – in Kirby's case, black and two shades of pink. Needless to say, clever art design can work wonders.



5 Economical use of colour palettes is important on the NES as the system can only define four sprite palettes at once. For that reason, the Waddle Dee here uses exactly the same colours as Kirby.

6 Background tiles can use one of four three-colour palettes, plus a universal background colour. They don't count towards the system's sprite-drawing limit, so are often used for less-animated game objects.

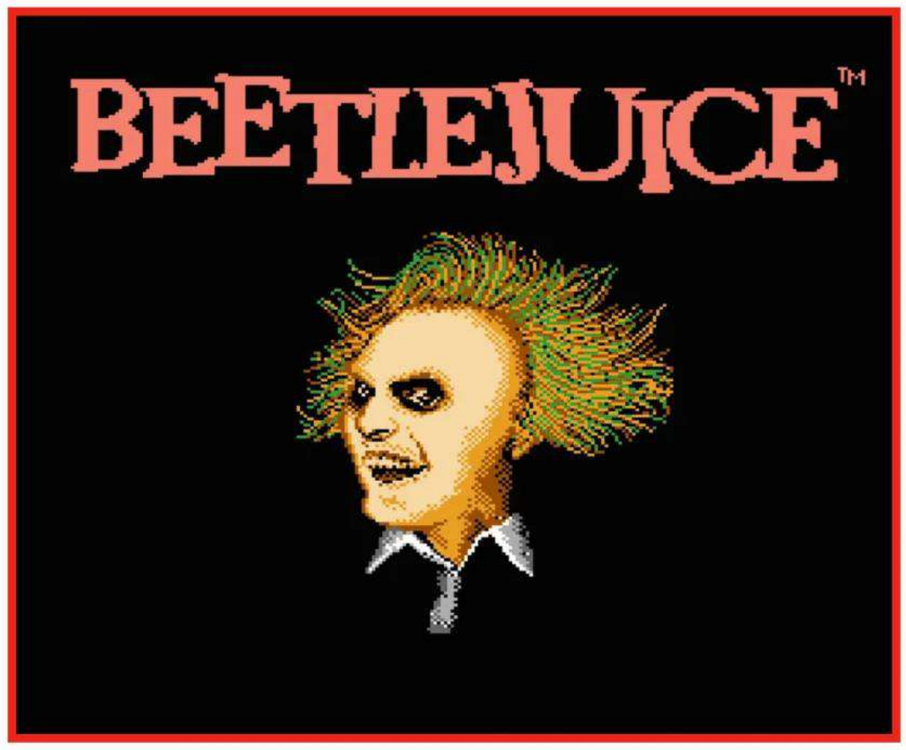
7 Although it blends with the background just as well as Kirby's fireballs, this enemy can't use a background palette and actually uses a distinct sprite palette of its own.

8 Like most systems of its era, the NES can only display a single layer of background graphics. However, the hardware's smooth per-pixel scrolling was a big advantage over rival machines.

when that happened. Also, when I worked on the *Beetlejuice* game, I had the opposite problem, and my title page artwork looked too much like Michael Keaton apparently, and so I had to do it again to make it look more like Beetlejuice – kind of difficult when they're the same person."

Sometimes, it was possible to push the system beyond its theoretical limits. "If you look at *Super Off Road*, you'll notice there are more colours on-screen at times than the hardware can handle as standard," says Paul. "There were four palettes of four colours each, but the first colour in each palette was the same background colour for all. So the total number of colours you could display for background characters was 13. There are more displayed on *Super Off Road* because I changed the palettes with carefully timed access to VRAM during horizontal blanking. This worked fine," Paul explains, before correcting himself. "Well, it did on the US version of the NES. When the game was finished, I was informed it would be released in Japan on the Famicom, which was slightly different in terms of hardware and unfortunately my colour switching wouldn't work on that, so I believe it was not released there."

Audio was handled by the same Ricoh 2A03 chip that contained the CPU. "On the NES, you've got four audio channels to work with. We don't count the DPCM (sample) channel, we don't use it as it has some drawbacks," says Nicolas, a developer of modern NES games. "Either way, that's two square wave generators, one triangle wave which is often used for bass lines and one noise channel used for percussive sounds. So you see, there are limited options for polyphony and timbre, which makes it difficult to create a more atmospheric soundtrack the likes of which you'd hear in modern games. Likely, that is one reason why a lot of game soundtracks back in the day made up for it with dynamic compositions and catchy melodies."



» [NES] Here's Kevin's Beetlejuice – or is it Michael Keaton? It could in fact be both.

NES audio has some particularly distinctive characteristics, not least the triangle waves which are stair-stepped rather than being smooth, due to the system's 4-bit sound processing. "Due to the limited amount of channels, you also have to be aware that sound effects can interrupt the music," adds Nicolas. "Ideally, you'll have sound effects play only on the channels you use for accompaniment, so they won't silence the melody." Sound is also one of the differentiating points between the Famicom and the NES, as the Famicom supports expanded audio through the cartridge port – something that the Famicom Disk System and certain special cartridge chips take advantage of. Since the NES doesn't have this capability, Japanese versions of games such as *The Legend Of Zelda* and *Castlevania III: Dracula's Curse* have noticeably better music than their international counterparts.

Indeed, it was the special chips that were one of the key factors in the longevity of the NES. As well as supporting both ROM and RAM on cartridge PCBs, the NES was able to utilise chips that Nintendo called Memory Management Controllers. As well as allowing for bank-switching that broke past the storage limitations of the original cartridge specification, these chips could provide extra features to assist in game development, and for the Famicom even expansion audio. That's ultimately how the system was able to go from hosting games like *Donkey Kong* to much more complex titles like *Kirby's Adventure* over the course of a decade.

Of course, even with ROM capacity greatly exceeding the original 40KB total, developers often fought for every byte. "A common issue in those days was trying to cram your

> "MY TITLE PAGE ARTWORK LOOKED TOO MUCH LIKE MICHAEL KEATON AND I HAD TO DO IT AGAIN TO MAKE IT LOOK MORE LIKE BEETLEJUICE"
> **KEVIN BAYLISS**

» [NES] Road effects in games like *Slalom* were created by altering the scrolling after each scanline.

» [NES] *Punch-Out!!* uses its own dedicated mapper chip to help with the large character sprites.

games onto the tiny cartridges we were given," says Paul. "This was complicated on NES/Game Boy (both 8-bit systems with 64KB memory maps) by having to have bank-switching where the region might be divided up into four 16KB blocks, and you could switch different ROM banks in and out of them. So you had to carefully arrange what code and data was where and how you would jump from one ROM bank to another in the same address space, using standard overlay jump tables at the start of the space. We also had to develop data compression routines, often different ones for different types of data – character data, map data, text data, music data. Huffman compression was used quite a bit, but I did spend time staring at printouts of other types of data, looking for patterns that I could use to develop compress software for."

Though on-board chips kept the NES competitive in the face of increasingly powerful competition, true 16-bit consoles eventually offered experiences that were beyond the capabilities of the ageing 8-bit architecture. A huge base of diehard fans and hand-me-down consoles still sustained the system for a while, and the NES saw its final official release in 1994. That wasn't the end of the story though, as the popularity of the machine has endured for decades.

"Back in the day, even though I never had a NES of my own, I always looked forward to playing one at a friend's house. I suppose that this circumstance and the great times we had together are what put it on a pedestal for me," says Julius Riecke of Morphcat Games. "Thus, creating a 'Nintendo game' was a dream of mine since I was young. I had lost track of it for a while until it came back to me in 2005, when I learned there was a homebrew scene for this console." Many people share that motivation, and a steady supply of new NES games is released each year.

NES games are made rather differently to the days when Paul and Kevin created them at Rare, thanks to modern tools and emulators with sophisticated debugging features.

> HUMAN PLAYERS WILL INTERACT WITH EVERYTHING AROUND THEM IN WAYS A DEVELOPER CANNOT FULLY PREDICT
>
> **NICOLAS BÉTOUX**

"We use Notepad++ for coding, YY-CHR and NEXXT for graphics and FamiTracker for music and sound," says Nicolas, explaining the tools Morphcat Games uses. "Julius created special tools like a map editor, tileset editor and sprite-animation editor to simplify some parts of our projects," he adds. James Deighan of Mega Cat Studios says, "Different projects have different pipelines and tools. As a general rule, it's CA65 and CC65, alongside project-specific tools that aid in the development of an individual project. Some tools accelerate collaboration across the team, like level-design workflows where technical artists and game designers can work more closely with each other. Others are project specific for squeezing the most space, as an example, out of a project."

Arguably the most ubiquitous tool used by NES developers today is FamiTracker. "Think entering music notes into a spreadsheet," says Nicolas. "That may sound excruciating, but the workflow is actually really good when you get used to it, and it certainly beats punching byte values into a text editor manually, while still giving you a lot of control over the intricacies of the sound chip. You can feed the output of FamiTracker into one of the excellent music engines developed by the NESdev community and never have to worry about it again in your game." James is similarly full of praise for the software, saying, "The community is great and the resources for using the tracker applications are accessible to anyone, whether you're an experienced composer or just a fan of chiptunes."

With these modern tools at their disposal, NES developers today tend to try very ambitious projects. Four-player action games are a rarity on the NES, but Morphcat Games created an excellent one in *Micro Mages*. This required some very economical use of the hardware. "The NES allows for a maximum of 64 hardware sprites to be on the screen at any time," Nicolas begins. "These sprites are 8x8 pixels in size (there's an 8x16 mode, but it has its drawbacks) and can be pieced together to form bigger sprites.

"So, to get a 16x16 sprite in the first mode, you'll have to use four hardware sprites. If you have all four players use 16x16 sprites, that's one quarter of all the available hardware sprites used on players! Also, there's a hardware limitation where if more than eight sprites are on the same horizontal line, they start to disappear," he continues. "To remedy this and still allow for many other objects and graphical effects on the screen, the player characters in *Micro Mages* use a single 8x8 sprite each."

» [NES] Morphcat Games' *Micro Mages* packs an impressive amount of multiplayer action for a NES game.

» [NES] *Metroid* scrolls both horizontally and vertically, but only in one direction at a time.

» [NES] Getting a good likeness in games like *WWF Wrestlemania* was tricky for Kevin.

PROTECTION RACKET

INSIDE THE LEAST-LOVED TECHNOLOGICAL INNOVATION OF THE NES

Nintendo is well known for being particularly protective of its products, and the 10NES chip is the first major example of that tendency. This chip was included in the front-loading models of the NES, and functioned as a locking device, which requested a particular code from the key chip on a cartridge. If that key wasn't supplied successfully, the console would blink on and off.

The primary purpose of the 10NES was to allow Nintendo to keep tight control of the NES software market. Publishers had to pay for a licence to create NES games, without which they wouldn't be able to bypass the 10NES chip. Nintendo argued that this system was in place to prevent a glut of poor-quality third-party games, like the ones that had dented consumer confidence in the Atari 2600 market. However, Nintendo's third-party policies were highly restrictive – its content guidelines were notoriously strict, it limited publishers to just five releases per year and prevented them from publishing on other companies' platforms. Nintendo also acted as the sole supplier of NES cartridges, which gave it a further cut of the profit from each game and allowed it to dictate how many copies of each game could be manufactured. The 10NES also served as a region-locking tool, and an anti-piracy measure.

Various publishers sought to avoid signing up as licensed developers, and worked to circumvent this protection. Tengen obtained a description of the chip from the United States Patent and Trademark Office via deception, and created a clone chip called the Rabbit – a move that would result in Nintendo successfully suing the company for copyright infringement. Early Codemasters games utilised the key chips of licensed cartridges by employing a pass-through cartridge design, similar to that of the Game Genie. Games from Color Dreams typically attempted to mess with the power supply to the 10NES chip to prevent it from operating.

Unlicensed games eventually thrived on the NES. Some of them vindicated Nintendo's stance – games like *Action 52* were infamously awful, while the likes of *Bible Adventures* and *Bubble Bath Babes* violated Nintendo's content guidelines in relation to religious content and nudity. Still, genuinely worthwhile games such as *Micro Machines*, *RBI Baseball 2* and *Rolling Thunder* were released as unlicensed games. The 10NES was not included in the top-loading NES-101 consoles, making them more reliable and region-free.

» [NES] *Action 52* was exactly the kind of garbage Nintendo wouldn't have wanted on the NES.

» [NES] *Micro Machines* made for a rather excellent official release on other consoles.

THE MINI MAKING OF

ALWA'S AWAKENING: THE 8-BIT EDITION

MIKAEL FORSLIND EXPLAINS THE PROCESS OF MAKING AN IMPRESSIVE MODERN NES GAME

WHY DID YOU DECIDE TO CREATE A VERSION OF *ALWA'S AWAKENING* FOR THE NES?

So originally there was this guy called Paul Molloy, of Infinite NES Lives. On Twitch, he did a fan remake on NES for *Alwa's Awakening* – without us being involved, he did it for fun. We just helped out and promoted it and, you know, joined the chat and watched the videos. So Martin Lindell of Embracer saw these Twitch streams and just emailed me and said, "Would you want to make a full NES release of *Alwa's Awakening*?" I asked Paul but he was too busy and had prior engagements. But here I was with Embracer wanting to fund the whole project, so that's when we put out a job ad looking for NES programmers.

WHO ANSWERED THE CALL?

I knew Brad Smith, who did the NES code, from his *Lizard* games and being part of the retro community. I just knew that he was really talented, so I actually sent him the job ad and I was like, "Would you be interested in this?" He was, so he did the NES port's code, and we did the art, the music, the game design and the level design.

WHAT SORT OF TOOLS WERE USED?

Brad did a lot of cool tools. I think they were written in Python and what they did was that they took the art and the levels we had for the original game – they were made in Tiled, a tile map editor, and the art was just normal PNG sprite sheets – and basically gave us a report that said, "You're using X amount of colours in this sheet and using X amount of colours in this sheet." With that information, our artist could take the art and just decrease the amount of colours.

» [NES] *Alwa's Awakening* shows just how much you can achieve with the NES graphically.

WHAT KIND OF ADJUSTMENTS NEEDED TO BE MADE TO THE GAME?

The original game was based on a 16:9 ratio, so in order to fit it in a 4:3 resolution, we had to decrease the width of the rooms and we also had to decrease one tile in the ceiling. I think music was the thing we had to change the least, because our composer used the FamiTracker tool to compose NES music. I think the only thing he had to do is just trim a few of the instruments here and there and just decrease the amount of bytes used. But I think his work was like a day or two.

ELDEN PIXELS NORMALLY DEVELOPS FOR MODERN PLATFORMS – WHAT WAS THE MOST UNUSUAL ASPECT OF WORKING ON THE NES?

For a number of months, I had four CRT TVs at the office and I had three or four different NES consoles so I could try the PAL, the NTSC, the Japanese ones. You have to deal with all kinds of things like overscan on old CRTs and stuff like that. I wouldn't say it was new to me, but it was new to me as a developer.

» [NES] The main player character uses overlaid sprites to achieve a more colourful look.

» [NES] *Alwa's Awakening: The 8-Bit Edition* is available on PC and Evercade as well as the NES.

» [NES] *Castlevania III: Dracula's Curse* uses the MMC5, one of the most powerful NES mapper chips.

» [NES] The NES wasn't designed to imitate sprite-scaling arcade games, but *Cosmic Epsilon* does an admirable job.

» [NES] *Battletoads* scrolls the walls faster than the back of the tunnel to create an illusion of depth.

The 8-bit CPU also proves to be a limiting factor, according to Nicolas. "If a game has an enemy which only moves sideways and turns around when it encounters a wall, that's a limited number of checks that need to be performed. Human players, on the other hand, are wild cards, they will interact with everything around them in ways a developer cannot fully predict. Also, if players have the ability to shoot, the number of objects on the screen adds up *fast*," he tells us. "This isn't that much of an issue in a single-player game and you usually get away with things in a two-player game. A four-player game, however? Ouch. In *Micro Mages*, we spent a lot of time on optimisation to avoid lag. However, in four-player mode, there are occasions where the game still slows down when there is too much going on."

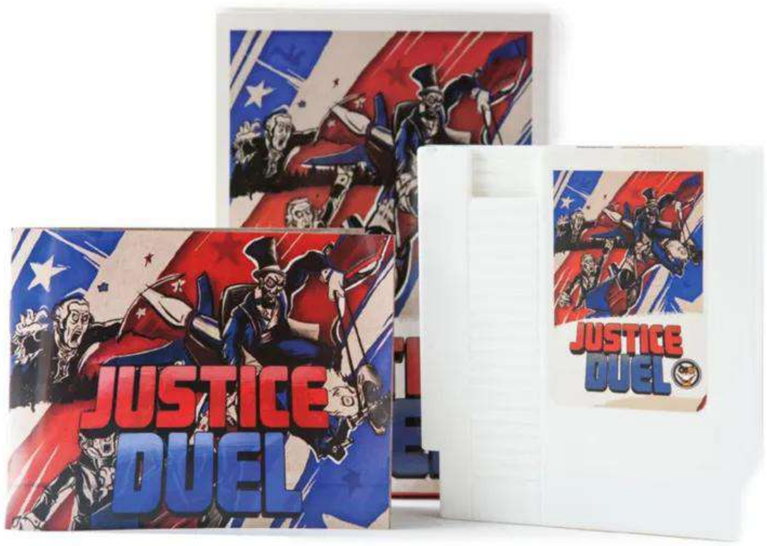
One advantage that modern developers do have is the ability to pick and choose from a wide range of memory management solutions – more commonly known as mappers these days. "They are just so interesting to unpack, and develop for," says James. Despite having the most powerful ones available, they are not always the default choice. "When a game is planned for development at Mega Cat, we start working backwards from what's required for the core gameplay to be fun," James explains. "In some cases, we end up defaulting to something powerful like the MMC3 mapper. In others, we can keep it simple and use a discrete mapper, like an NROM." Indeed, the recent NES game *Blazing Rangers* from Japanese developer Karu_gamo specifically used the simplest mapper, the NROM, to evoke nostalgia for the early days of the Famicom.

> I LOVED CODING THE NES, IT WAS A COMPLETELY DIFFERENT ARCHITECTURE FROM THE HOME COMPUTERS I'D WORKED ON BEFORE
> **PAUL MACHACEK**

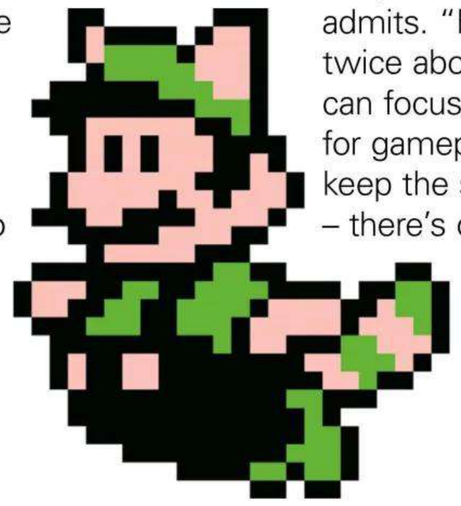
That's really the core of the ongoing fascination with the NES from developers – not only is it a technically interesting system, but one that offers a strong nostalgic pull. Even those who first encountered it in a work context, like Kevin, feel that nostalgia. "I enjoyed working on the NES as an artist, because you really knew the system eventually. Whether you were creating backgrounds, animated sprites, title pages or front-end (scoreboard) graphics – you had a system in place that you'd used on a previous game and occasionally you'd come up with something new to push it a little further and squeeze a little more out of it visually. Simple times, but fun!"

Although Paul laments the number juggling inherent in programming for the 6502, he also remembers the system fondly. "I loved coding the NES, it was a completely different architecture from the home computers I'd worked on before, there were interesting tricks you could play with the character-mapped screen which you could exploit to give depth – go check out our *Battletoads* games on NES/Game Boy – and I regarded it all as an interesting technical challenge to 'solve' new issues around this alternative hardware architecture." But for all of the fun of programming the system, Paul rightly points to the results of that work as the reason for the success of the NES. "It can't be forgotten that Nintendo had an incredible catalogue of games on the systems, notably *Super Mario* and *Zelda*. *Super Mario Bros 3* was a huge step forward, and an absolute pinnacle at that time," he says.

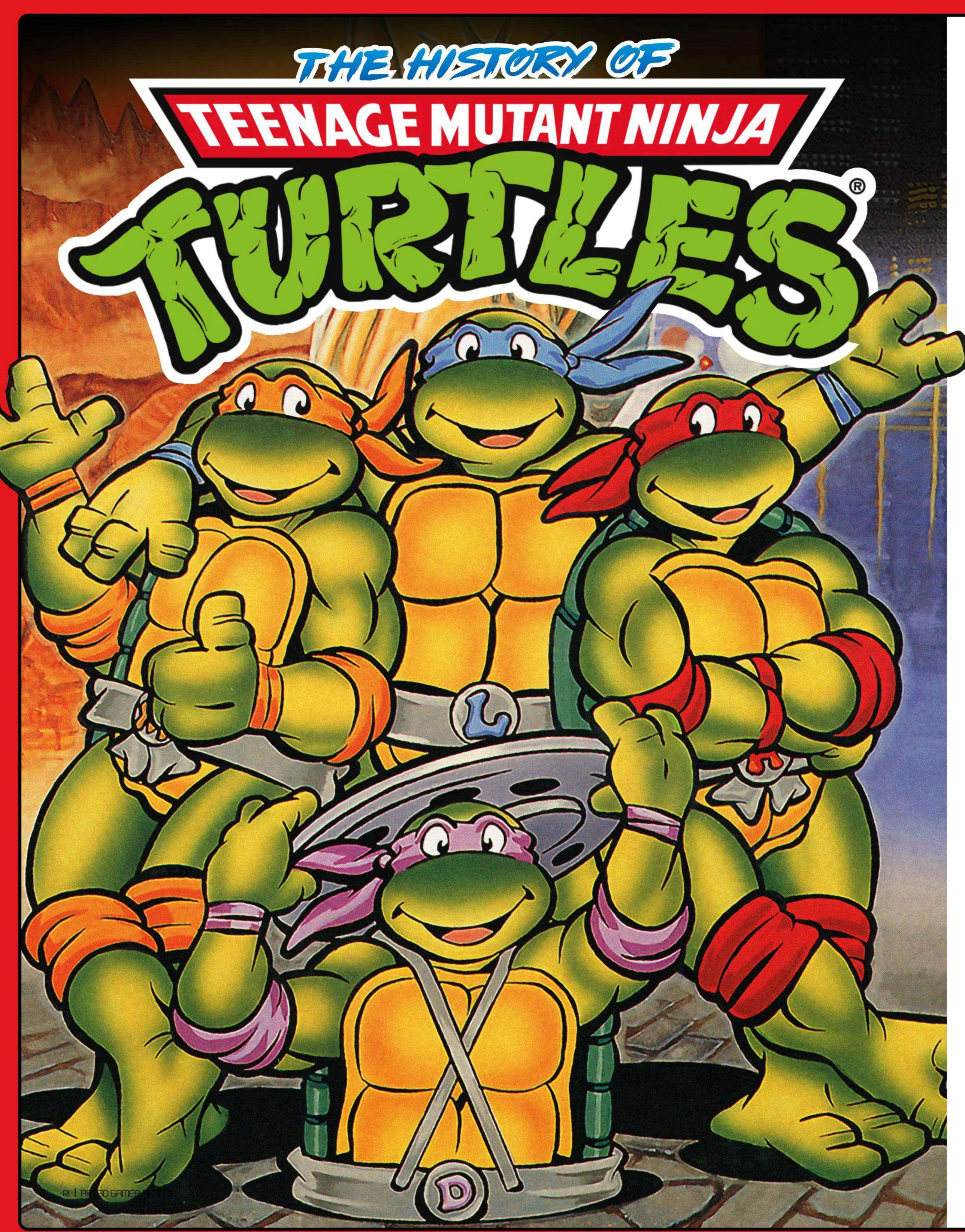
If you're an aspiring retro-game creator, the NES might just be the ideal platform for you. "NES code, graphics and sound are easy to manage by one person each in the team," says Nicolas. "Compared to now, the programming language feels more obscure and complex than modern languages. All the limitations push you to spend more time for everything," he admits. "But it also forces you to think twice about each idea. In the end, you can focus on the most important ones for gameplay. These limitations can keep the scope of your game in check – there's only so much you can do." If you find yourself drawn to the idea of tackling that technical challenge, show us the results one day – we'll always be interested in seeing them. ✱



» Modern NES releases often meet the physical quality of the retail releases of old.



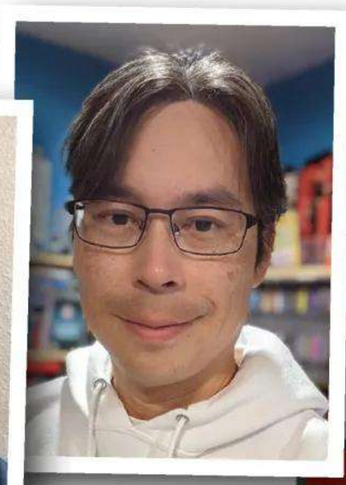
THE HISTORY OF TEENAGE MUTANT NINJA TURTLES®



SOME LICENSED CHARACTERS MAKE FOR GREAT GAMES, BUT THE RADICAL HALF-SHELLED HEROES HAVE MANAGED TO ACHIEVE GREATNESS REPEATEDLY – THOUGH NOT ALWAYS CONSISTENTLY. WE LOOK BACK AT THREE DECADES OF TURTLES, FROM THE BAD TO THE RAD

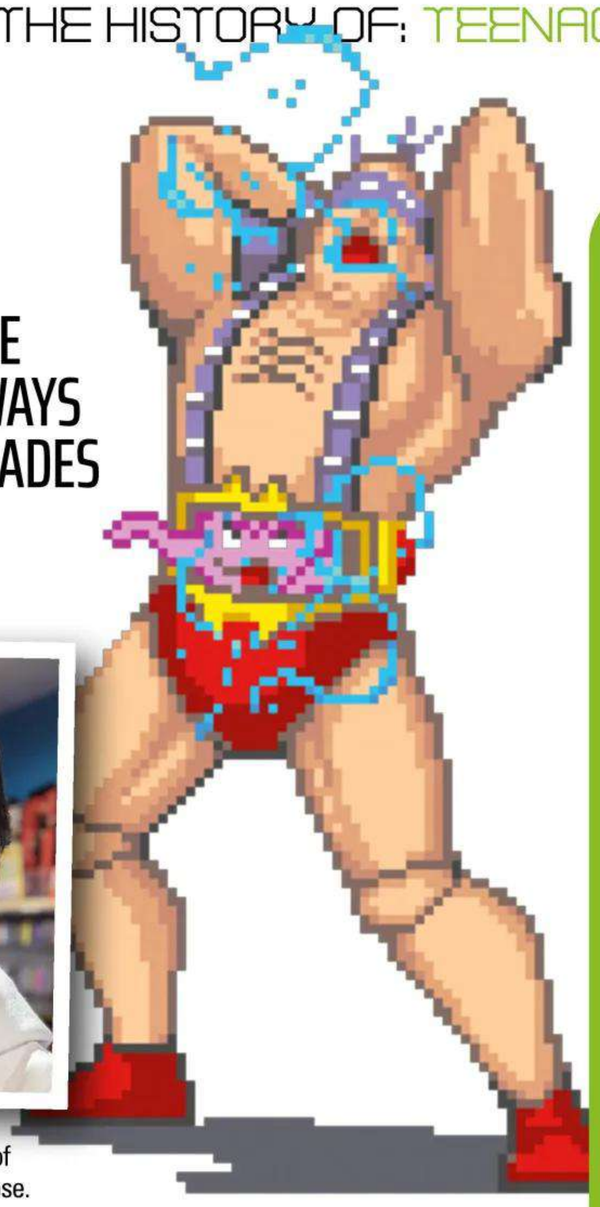
WORDS BY NICK THORPE

» Chris Kohler, editorial director, Digital Eclipse.



» Thomas Church, designer, Digital Eclipse.

» Stephen Frost, head of production, Digital Eclipse.



For many people the name Leonardo conjures up thoughts of da Vinci, one of history's most brilliant artists, but if you were a child of the Eighties or later it probably brings to mind his namesake – the leader of the Teenage Mutant Ninja Turtles. Starting off as a cult comic before ballooning into an enormous multimedia franchise, few aspects of youth culture have been able to escape Splinter's pupils, and videogames are no exception. However, the *Turtles* licence is no run-of-the-mill cash grab, as plenty of the games have been very memorable.

If you grew up with a NES in the UK, chances are you got it because it was bundled with the first-ever *Teenage Mutant Ninja Turtles* game – or *Teenage Mutant Hero Turtles*, as we called them in our ninja-averse part of the world. Konami's action game saw you primarily working your way through scrolling platform environments and beating up enemies, with the goal of retrieving the Life Transformer Gun from Shredder in order to free Splinter from his rat form and make him human again. Although the game is a solo affair, you play as all of the Turtles. "Obviously when someone thinks of the Teenage Mutant Ninja Turtles, they think of the team dynamic between the Turtles themselves," says Thomas Church, designer at Digital Eclipse, the team behind *Teenage Mutant Ninja Turtles: The Cowabunga Collection*. "*Teenage Mutant Ninja Turtles* for the NES made great use of this aspect by allowing players to dynamically swap between the turtles whenever they'd like and incentivising use of said mechanic by having each turtle retain their own health bars."

> "OBVIOUSLY WHEN SOMEONE THINKS OF THE TEENAGE MUTANT NINJA TURTLES, THEY THINK OF THE TEAM DYNAMIC BETWEEN THE TURTLES THEMSELVES"
> **THOMAS CHURCH**

Top-down sections facilitate travel between the platform areas, with the Turtles fending off enemy attacks as they go. "Looking at the design documents in *The Cowabunga Collection*, you can see that Konami's designers wanted to craft something new and unique around the story of the Teenage Mutant Ninja Turtles. They were clearly inspired by the idea of travelling underground through the sewers of New York City, and thus came up with the concept of sewers that connect players to different bits of the overworld that are otherwise inaccessible," says Chris Kohler, editorial director at Digital Eclipse. "Rather than just slapping the Turtles into a pre-existing

» [NES] Donatello usually has the greatest reach of the Turtles, which is handy in situations like this.

REPTILE ROOTS

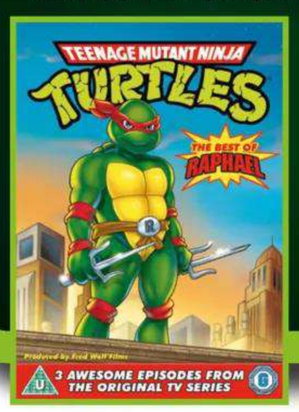
JUST WHERE DO THOSE MAGNIFICENT MUTANTS COME FROM?

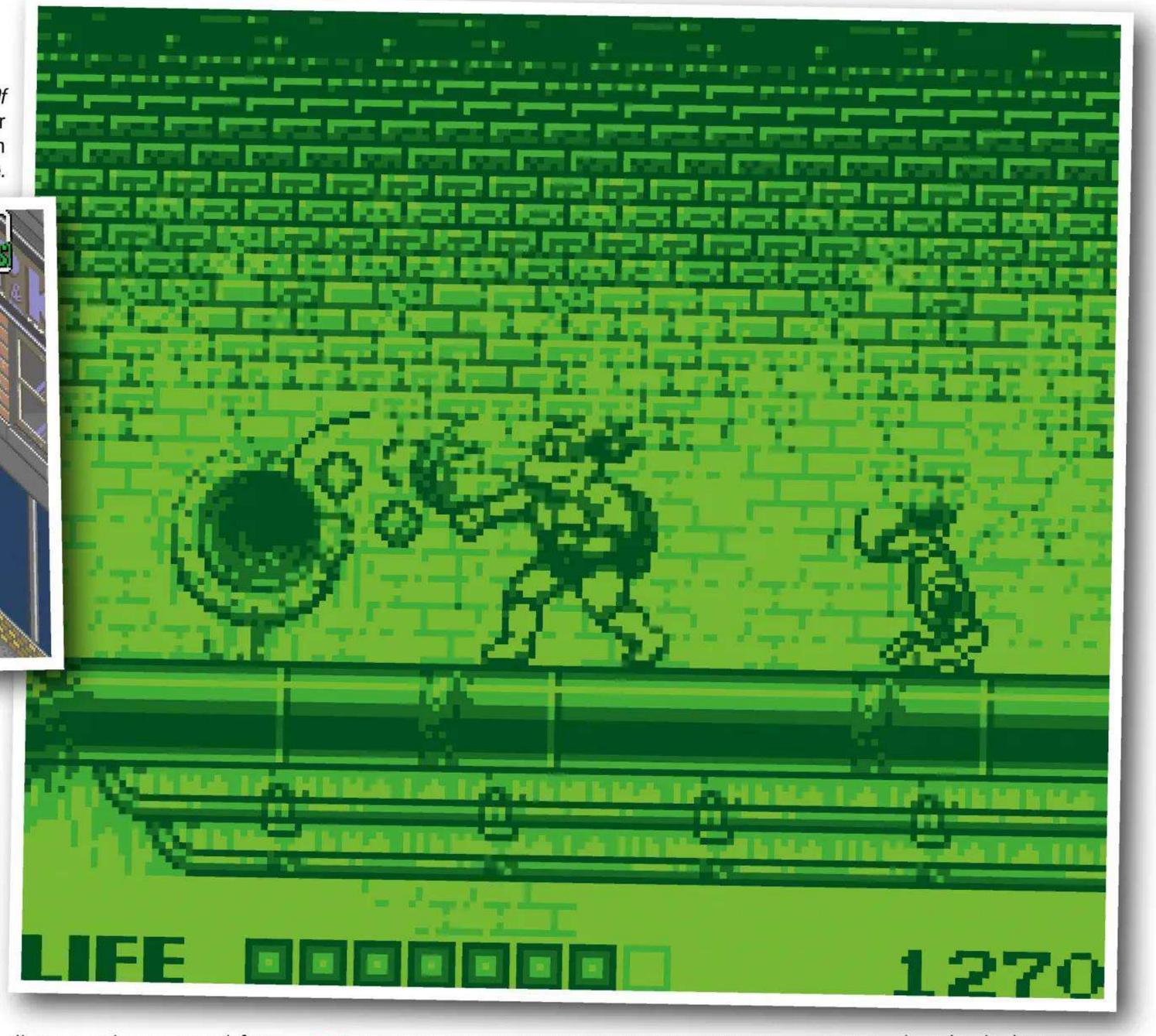
When Peter Laird and Kevin Eastman dreamed up *Teenage Mutant Ninja Turtles* in the mid-Eighties, enormous global success wasn't part of the design. The concept was full of parodies, with Daredevil being a notable inspiration, and the duo only used the names of Renaissance artists because they couldn't come up with Japanese names that sounded convincing. The independent creators only printed a few thousand copies of their first issue.

Though the creators of the Turtles didn't have grand ambitions, their first major licensee did. Playmates, a toy company, wanted a TV series on the air to help sell its action figures. That arrived in 1987, and despite having to adopt a lighter tone to appeal to children, it quickly overtook the comics in the public consciousness. Popular villains including Krang, Bebop and Rocksteady were introduced in the show, as were the distinctive coloured headbands that make the heroes more easily identifiable. A live-action film followed in 1990, grossing over $200 million and spawning two sequels, and in 1994 the *New York Times* reported that the franchise had generated over $6 billion in merchandise sales.

The series hit a rough patch in the late-Nineties, with the end of the animated series in 1996 and the beginning of the infamous live-action series *Teenage Mutant Ninja Turtles: The Next Mutation*, which introduced the rarely remembered female fighter Venus. Kevin Eastman even sold his share in the property in 2000. But when the Turtles re-emerged from their shells for a second animated series in 2003, it was a success that ran for 155 episodes over six years and paved the way for a CGI film in 2007. In 2009, the series was sold to Nickelodeon.

Since then, two additional animated series have brought the total number of TV episodes to more than 500, and two more live-action films were released in 2014 and 2016, with a new CGI film scheduled for 2023. Meanwhile, IDW Comics has been publishing *Teenage Mutant Ninja Turtles* comics since 2011, with Kevin Eastman returning to write many of the stories for the new series.





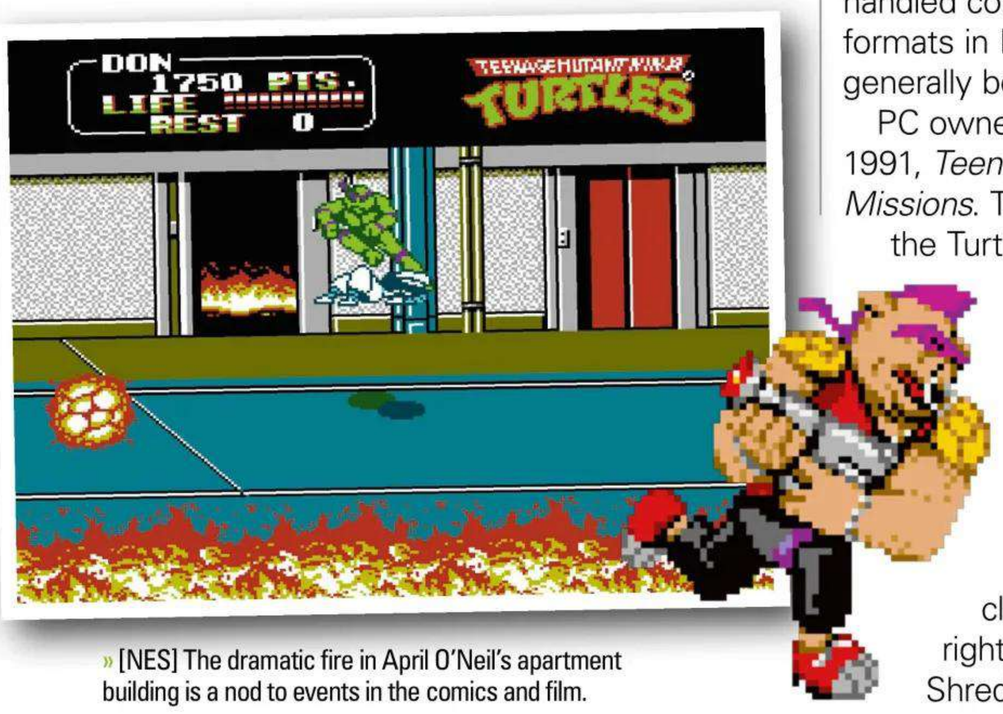
» [Game Boy] *Fall Of The Foot Clan* is rather visually detailed for such an early Game Boy game.

» [Arcade] Splatting a Foot Soldier against the side of a building is a neat little graphical touch.

game format, Konami's designers really thought about what suited the backstory and mythology of the Turtles, which is commendable." The NES game was a roaring success, scoring 90% in *Mean Machines* and selling a whopping four-million copies, with conversions later developed for a variety of home-computer formats.

The Turtles made their arcade debut a few months later, and it didn't struggle to gain attention. "If you didn't know there was a *TMNT* game, you would know it as soon as you walked into the local arcade or bowling alley, heard the unmistakable sound of the *TMNT* theme song blaring at top volume throughout the place, and cranked your head around to see this full-screen, colourful animation playing in this behemoth four-player cabinet," says Chris. The scrolling beat-'em-up tasked the Turtles with rescuing April O'Neil and Splinter, en route to a climactic showdown with Krang and Shredder at the Technodrome.

The arcade beat-'em-up scene was very competitive in 1989 thanks to the arrival of games like *Golden Axe* and *Final Fight*, but *Teenage Mutant Ninja Turtles* gained a unique advantage from its source material. "While multiplayer beat-'em-up games were hardly a rarity back then, *TMNT* was one of the first games to really start pushing the number of players who could all play together," says Thomas. "When I think back to playing *TMNT* in the arcades, I immediately think of the vibrant colours used for each Turtle and how all my friends would each be drawn to their own uniquely coloured turtle. Even family members who weren't familiar with the franchise could still say stuff like, 'Oh, I like this Turtle wearing purple!'"



» [NES] The dramatic fire in April O'Neil's apartment building is a nod to events in the comics and film.

> "IF YOU DIDN'T KNOW THERE WAS A TMNT GAME, YOU WOULD KNOW IT AS SOON AS YOU WALKED INTO THE LOCAL ARCADE OR BOWLING ALLEY"
> **CHRIS KOHLER**

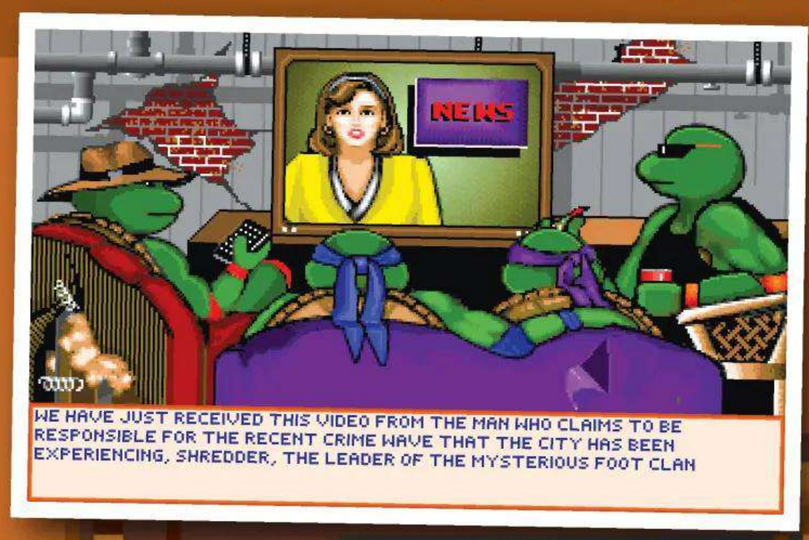
***Teenage Mutant Ninja Turtles* earned the award for the Most Played Dedicated Videogame in America at the AMOA Awards in October 1990, and the game was very successful internationally too.** A NES conversion arrived just in time for Christmas that year and although it only offered two-player action, Konami changed and extended the experience to make it worth playing in its own right. The voucher for a free personal pan pizza at Pizza Hut certainly didn't hurt, either. Probe also handled conversions to popular home-computer formats in Europe, with the 8-bit versions being generally better regarded than the 16-bit ones.

PC owners got an exclusive adventure in 1991, *Teenage Mutant Ninja Turtles: Manhattan Missions*. The game retells the origin story of the Turtles and it's clear that the comic is more of an inspiration for the tone of the game than the cartoon, but it incorporates enough elements from that and the film to make for a strange mishmash of ideas. The player takes on missions in a non-linear fashion, with gameplay that the developer Distinctive Software clearly liked in *Prince Of Persia*, right down to the time limit on finding Shredder. It's certainly an interesting game, despite being one of the more forgotten entries in the series.

Teenage Mutant Ninja Turtles: Fall Of The Foot Clan brought the series to the Game Boy in 1990. Although the game has a similar plot to the NES version, the action is more like that of *Kung-Fu Master*, with some light platforming elements sprinkled in. "I can only speculate here, but I think the design is based on the idea that players would be approaching this game during a few minutes of downtime here and there," says Chris. "Rather than a complicated design like we saw in the original NES version, it's really just about moving forward and taking each enemy as they come, with nice big sprites that can be clearly seen on the Game Boy's low-resolution, non-backlit screen." *Mean Machines* felt that "even the most seasoned of beat-'em-up fans will find the going tough" and awarded it 88%. A sequel titled *Teenage Mutant Ninja Turtles: Back From The Sewers* arrived on the Game Boy in 1991. The graphics and sound are a major step up from *Fall Of The Foot Clan*, and gameplay switches between the original gameplay style and arcade-style sections with lateral movement. *ACE* gave it 785/1,000, complaining that "basically it's just the first *Turtles* game with bigger graphics".

The Turtles returned to the arcade in 1991 with *Teenage Mutant Ninja Turtles: Turtles In Time*, which saw Krang stealing the Statue Of Liberty before Shredder sends the brothers through a time warp. Konami stuck with the winning formula of the previous game, tinkering with new moves such as a side-to-side slam attack. "Not only did it have all the aspects that made the first game so popular, but it came about in a time when technology was really

» [Arcade] Throwing the enemy into the screen via the magic of sprite scaling still feels very cool.


NEWS
WE HAVE JUST RECEIVED THIS VIDEO FROM THE MAN WHO CLAIMS TO BE RESPONSIBLE FOR THE RECENT CRIME WAVE THAT THE CITY HAS BEEN EXPERIENCING, SHREDDER, THE LEADER OF THE MYSTERIOUS FOOT CLAN

» [PC] One thing *Manhattan Missions* has going for it is some really lovely art.

» [Game Boy] Impressively, the second handheld game manages to look even better than the rather nice original.

LICENSED LEGACY

AFTER THE SUCCESS OF THE TURTLES, KONAMI WENT BIG ON BEAT-'EM-UP TIE-INS

THE SIMPSONS

■ Like the Turtles' arcade debut, the first game starring Springfield's most famous family is a popular four-player beat-'em-up. That's no coincidence, as Chris Kohler points out, "In the credits for *The Simpsons*, there's a special thanks to 'Team GX963' – that's the part number for the *TMNT* arcade circuit board."

X-MEN

■ How do you top a four-player game? Easy – add a couple more control panels to the cabinet so six people can control Marvel's mutants. The graphical staff of the *Teenage Mutant Ninja Turtles* arcade game moved on to work on this, with their efforts showcased via a spectacular dual-monitor display.

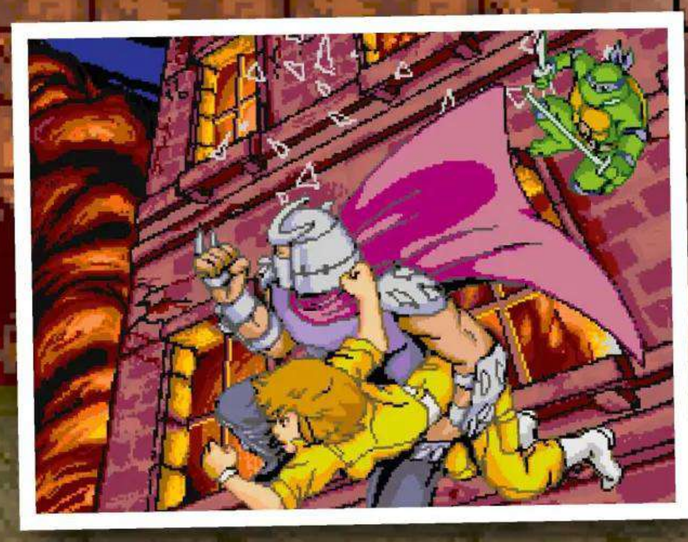
BUCKY O'HARE

■ Just like the *Turtles* game that inspired it, *The Simpsons* was a big success, so a number of the same staff returned to create this cartoon tie-in. Once again, the four-player treatment was key to the success of the game, which arcade operators ranked highly in *RePlay* magazine's earnings poll.

ASTÉRIX

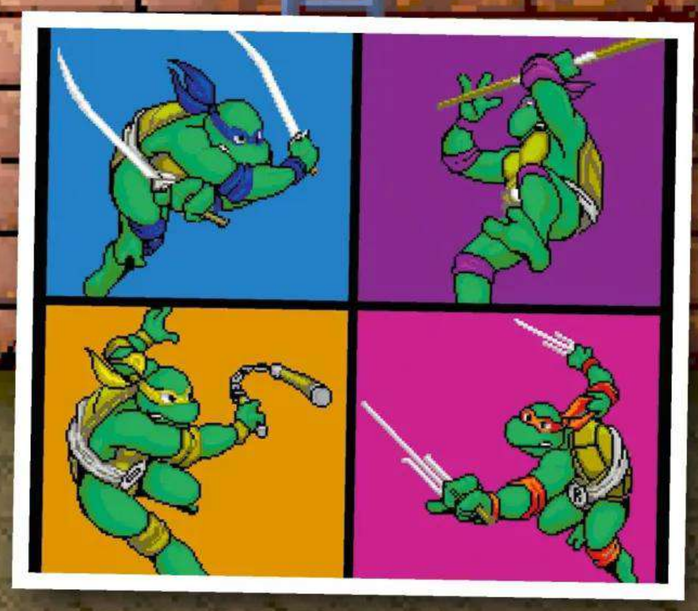
■ This adaptation of the popular French comic series was unusual in that it didn't have the four-player action of its contemporaries. A number of its staff – particularly those working with sound and music – did work on *Turtles* games before and after *Astérix*, including the prolific composer Michiru Yamane.

MUST-HAVE MUTATIONS



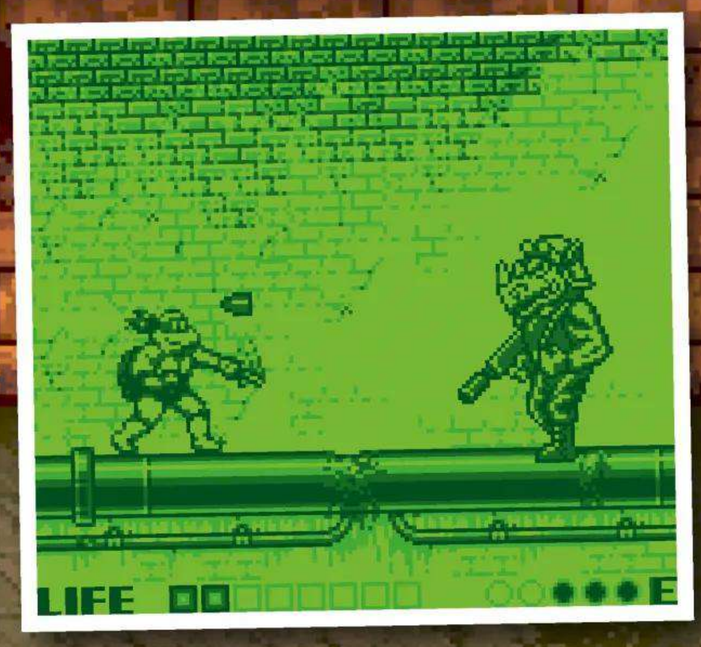
VIVID VISUALS

■ Whether it's with pixel art or cel-shaded 3D models, capturing the distinctive looks of the comics and cartoons helps to lend the games an air of authenticity.



TEAM TIME

■ The fact that the Turtles are a closely bonded quartet should be factored into gameplay, even when you're playing solo as in the original NES game.

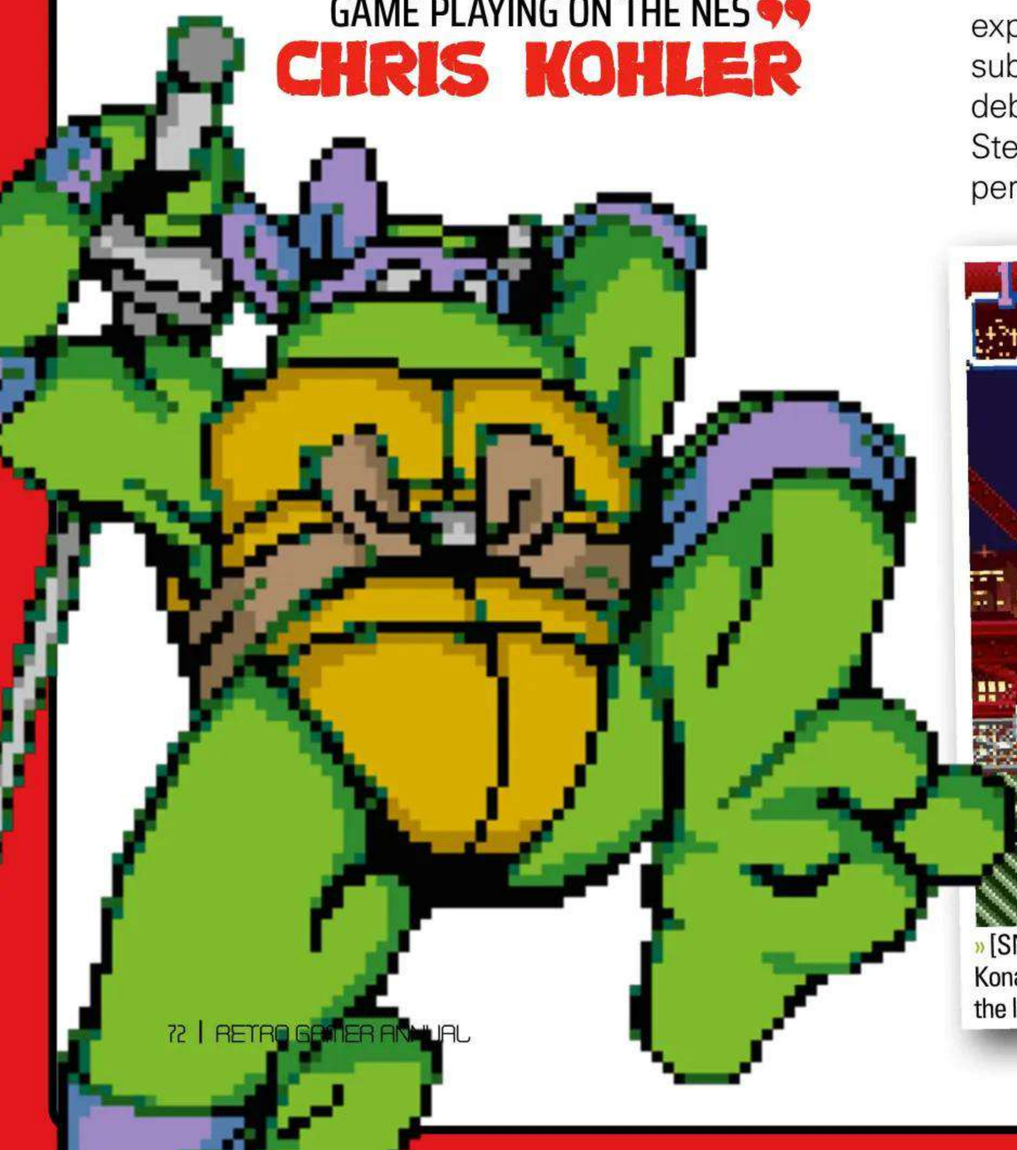


SMOOTH SKILLS

■ When you're deflecting enemy bullets with your weapons, chucking enemies at the screen and racking up crazy combos, you feel like a real ninja.

» [NES] *The Manhattan Project* features an impressive amount of action on-screen, considering the platform.

> MANHATTAN PROJECT IS, IN MY VIEW, AN ABSOLUTE 8-BIT MASTERPIECE – BEGINNING WITH THE FRAMEWORK THAT THEY'D LAID DOWN TO GET A VERSION OF THE ARCADE GAME PLAYING ON THE NES
>
> **CHRIS KOHLER**



▶ hitting its stride in bringing out the best in beat-'em-up games," says Thomas. "Both sound and graphic quality felt like a noticeable step up, even if this was simply how they were implemented in-game and not necessarily because of a change in hardware." That was evident with presentational flourishes such as defeated Foot Soldiers flying towards the screen and enormous moving enemies.

Once again, arcade success led to a home conversion, this time for the SNES. "When Konami brought *Turtles In Time* from the arcade to the SNES, they knew they had to lose the four-player mode, but they wanted to improve it in every other way, by adding more features, more bosses, more levels, and by improving the feel of the combat as well," Chris explains. "What came out of those efforts was, in some fans' view, the ultimate expression of the *Turtles* beat-'em-up." The subject of which version is better is a matter of debate, as Digital Eclipse's head of production Stephen Frost acknowledges. "From a personal perspective, I think – especially for a single-player experience – that the SNES version definitely has more to offer, overall. However, there is also something compelling and magical about having four players come together to play the arcade version."

NES owners didn't get a conversion of *Turtles In Time*, but they did get a bespoke beat-'em-up in the form of *Teenage Mutant Ninja Turtles III: The Manhattan Project*. Being a fairly late NES release, and one which didn't see a European release, *The Manhattan Project* doesn't always get its due. "*TMNT III: The Manhattan Project* is, in my view, an absolute 8-bit masterpiece – beginning with the framework that they'd laid down to get a version of the arcade game playing on the NES, they now had the ability to do something entirely new that played to the strengths of the NES versus trying to replicate something from more powerful hardware," says Chris. "*Manhattan Project* is just stuffed to the gills – more levels, more characters, more moves, more animation. It was more complex than the arcade games could have been – this would have been too many levels, too many options for an arcade game that was designed to churn

» [SNES] 16-bit hardware allowed Konami to more closely match the look of the arcade games.

» [Game Boy] Very few Metroidvanias had been attempted on Game Boy prior to *Radical Rescue*.

WHAT MAKES UP THE DNA OF THE GREATEST TURTLES GAMES?

RADICAL RIDES

■ Vehicular sections have provided plenty of great moments in *Turtles* games, from jet-powered surfboards to rides on the back of Casey Jones' motorbike.

BURLY BOSSES

■ Whether you're battling Bebop and Rocksteady, Baxter Stockman or Shredder himself, defeating a fearsome foe just makes you feel all the more heroic.

» [Mega Drive] *The Hyperstone Heist* is good fun, but has become a rather expensive game in its original form.

» [Mega Drive] If you're going to fight a clone of your friend anywhere, it may as well be space.

through players (and their tokens) efficiently. But as a home-only game, it was perfect."

The success of Sega's Mega Drive had become impossible to ignore by 1992, with *Teenage Mutant Ninja Turtles: The Hyperstone Heist* being one of Konami's first releases for the console. Rather than directly adapting *Turtles In Time*, this beat-'em-up takes elements from both arcade games. "It was not common in Japan at that time to see multi-platform releases. If you look at Konami's Genesis game line-up, you might see games in the same franchises as what appeared on the SNES, but the games themselves were usually different, usually by different teams," notes Chris, explaining the unusual approach. "Look at the fact that they did three totally different *Castlevania* games for the SNES, Genesis and PC Engine, for example. I think there was more of a sense that they had to provide original, unique content for each platform." *Mega* gave it 80%, calling it "more fun than *Streets Of Rage 2*" but also saying that it "doesn't quite have the variety of clever moves or quite as much challenge".

You'd be forgiven for thinking that *Teenage Mutant Ninja Turtles III: Radical Rescue* takes after its Game Boy predecessors, given the name, but the 1993 release actually goes in a radically different direction despite being developed by the same core staff. Starting as Michelangelo, you must rescue the other Turtles as well as Splinter and April O'Neil, not only because it's the right thing to do but also because you need their abilities to progress through the Metroidvania-style platform adventure. *CVG* gave it 90%, feeling that it has "good music for a change" and "could soon be in the top five handheld games of all time".

Teenage Mutant Ninja Turtles: Tournament Fighters was Konami's last big push with the series in the Nineties. Unusually, three different games were produced under the same name, all three being one-on-one fighting games with different character rosters, settings and plots. SNES and Mega Drive versions were released in 1993, with the former generally being considered better. "When you look at the design documents (hundreds and hundreds of pages of which are in *The Cowabunga Collection*!), you can tell there was a massive effort put forth here to craft something worthy of the *TMNT* franchise and something that would be Konami's

DELIVERY? NO, COLLECTION

HOW KONAMI'S CLASSICS HAVE RETURNED VIA THE COWABUNGA COLLECTION

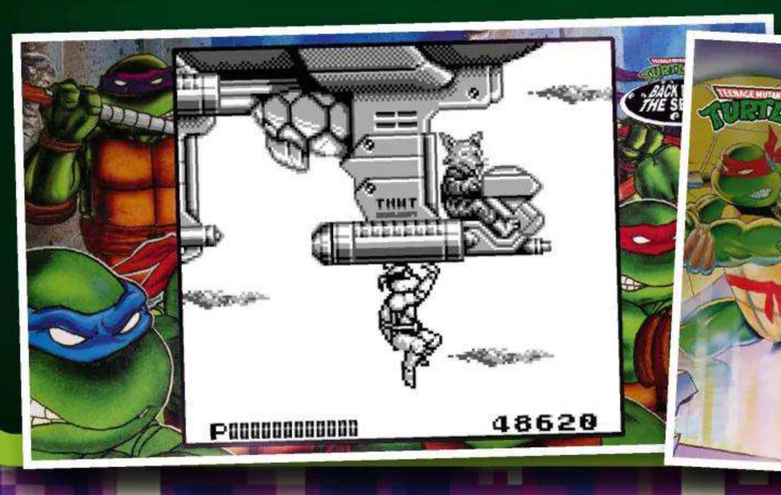
Shredder's Revenge wasn't the only reason that 2022 was a great year for fans of *Teenage Mutant Ninja Turtles* games, as Konami released *Teenage Mutant Ninja Turtles: The Cowabunga Collection*. Developed by Digital Eclipse, this compilation is available on all modern platforms and comprises 13 console and arcade games from 1989-1994, including arcade, NES, SNES, Game Boy and Mega Drive games.

"When Konami began releasing its earlier collections, there was a pretty strong fan outcry for a *Turtles* compilation," says Chris Kohler. "The original *TMNT* on NES was the biggest-selling third-party game for the platform worldwide, with over four-million units sold, so that's not too surprising!" Charles Murakami, senior producer at Konami, also saw this fan response and took the opportunity. "I pitched a collection with 13 of Konami's classic *TMNT* games along with comic and cartoon pieces to make a full *TMNT* celebration! The Konami US office was enthused with the plan and the rest of Konami were convinced this was the most exciting way to go," he explains. "I've also been a fan of Digital Eclipse's other collections and was eager to see if they were interested. Seeing their excitement to work on a *TMNT* collection let me know that they're the right group to work on this project."

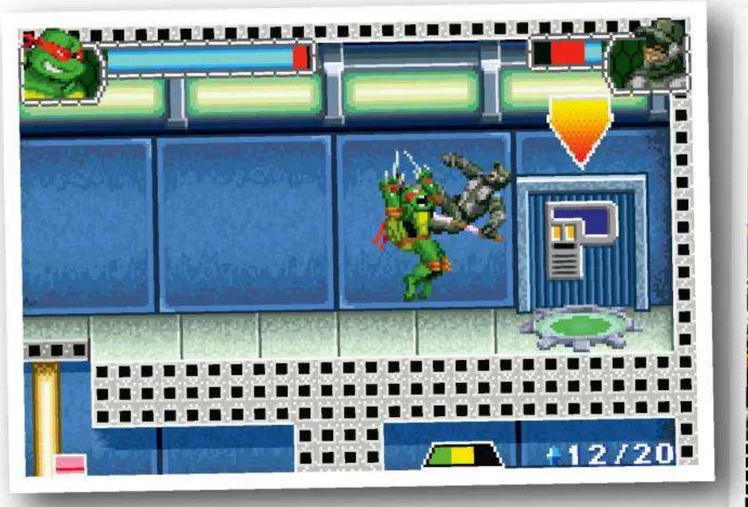
Digital Eclipse is known for going above and beyond on its retro-gaming collections, and this one is no different. "We're very privileged to get to work with Rich Whitehouse, who was the ROM engineer on this project and was able to reverse-engineer the games and figure out how to enable things like playable bosses as well as surface other buried features that for whatever reason didn't make it into the original games," says Chris. Other options, depending on the game, include regional variations, sprite flicker removal and even online play.

To create the Turtles' Lair museum section, Chris spent a full week researching at The Strong to grab press materials and style guides, as well as tracking down complete copies of every game in the collection. "Konami went through their massive archive in Japan and found nearly 2,000 pages of design documents and art, which we scanned, organised, translated/captioned, and included in the Turtles' Lair," he explains. "They weren't sure what was left since it had been over 30 years since anyone had pulled these files," adds Charles. "They did a fantastic job hunting so many pieces! I was overjoyed that we could show these awesome docs to our fans for the first time."

"I'm really proud of the overall scope and level of quality in *The Cowabunga Collection*. We spent a lot of time on everything from the presentation to the content found in Turtles' Lair in order to provide an experience that would excite both long-time fans of *TMNT*, as well as the casual audience," says Stephen Frost, who is particularly proud of the interactive strategy guides. "There was a time where we didn't think we were going to be able to include them since they required a lot of work across all the disciplines and our final deadline was fast approaching. However, everyone felt they were important and wanted them, so we got them in. It seemed that extra work paid off, too, as the guides are generally one of the main things that fans bring up and talk about."



» [SNES] It feels like Nintendo fans got the best end of the stick with *Tournament Fighters*.



» [Game Boy Advance] There's some good fun to be had with Konami's GBA games, with *Battle Nexus* being the best.

» [NES] Making a one-on-one fighter for the NES was ambitious, and likely thankless by 1994.

biggest in-house competitor to *Street Fighter II*. So much effort was lavished on the animations, the move sets and the ambience," says Chris. The NES version, Konami's final game for the platform in North America and Europe, arrived in 1994 and was a particularly ambitious project. These games ended up as a last hurrah for the initial range of *Turtles* games, as they skipped the PlayStation, Saturn and N64.

When the Turtles returned to TV screens with a new cartoon in 2003, Konami was ready with a brand-new beat-'em-up simply titled *Teenage Mutant Ninja Turtles*, for the PS2, GameCube, Xbox and PC. Just as in the new TV series, the four heroes come into conflict with mutated sewer-dwelling humans, and the story is told using clips from the show – in fact, it even includes newly animated sequences for the new plot points. Stunning cel-shaded 3D graphics perfectly captured the look of the cartoon, but the gameplay lacked the variety and four-player action of past instalments. Reviewing the Xbox version, *games™* felt that it "doesn't do anything particularly innovative, though it's perfectly playable and looks great", giving it a 5/10 score.

Two sequels followed in 2004 and 2005, adapting further seasons of the show. *Teenage Mutant Ninja Turtles 2: Battle Nexus* allows for four players but bizarrely forces them to share a life bar, and *Cube*'s 4.4/10 review suggests that an additional emphasis on platforming "kills the enjoyment off". *Teenage Mutant Ninja Turtles 3: Mutant Nightmare* scaled back the platforming and gave players their own life bars and new team-up moves, as well as a shop system allowing the purchase of more moves. This improved the game slightly but even a budget price point couldn't save the game from a 3/10 review in *Official PlayStation 2 Magazine*, which described it as "another sub-standard beat-'em-up that won't test your brain".

A series of decent handheld games ran parallel to the 3D adventures and bore the same names, with the emphasis shifting from combat to platforming as the series went on. *Battle Nexus* on the GBA is the best of the bunch, with *Mutant Nightmare* for the DS suffering from the addition of pointless touchscreen bits. Konami also experimented with arena combat in the style of *Power Stone* in the 2005 multi-platform game *Teenage Mutant Ninja Turtles: Mutant Melee*. GameSpot felt it to be "slapdash and barren", complaining of poor character balancing, repetitive action and cramped arenas, awarding it a final score of just 4.3/10. After many years with Konami, the time seemed right for another company to try its luck with the reptilian heroes.

That company was Ubisoft. 2007 saw the arrival of *TMNT*, a CGI movie in which the Turtles drift apart, before having to reunite to fend off the threat of ancient, immortal warlords, and its multiformat movie tie-in put a new emphasis on the agility of the Turtles with a much more prominent platforming element. In many ways, it felt like a kid-friendly version of the company's *Prince Of Persia* games, with the main flaws being that it was rather short and easy. Critics had different opinions on how big of a problem this was, but GameSpy rated it 3.5/5, saying that, "If you judge *TMNT* on its own merits as a platform-hopper with a dash of semi-imaginative combat thrown in, then it's a fine game." A bespoke 2D scrolling beat-'em-up was created specifically for the Game Boy Advance, taking after Konami's 2D games with the addition of shopping between stages and a broader set of moves, which could be strung together in satisfying fashion for big combos. IGN's review scored the game 8.5/10 and reflected the overall mood around the game well, calling it "one of the best brawling games I've played in years" despite disappointment over the lack of multiplayer. Unfortunately, it was largely overlooked as many players had already moved on from the platform.

Ubisoft launched a few games for the 25th anniversary of the franchise in 2009. For Xbox 360 and PS3 owners, it looked to the past and came up with *Turtles In Time Re-Shelled*, a downloadable remake of Konami's arcade game. The game didn't fare too well with critics, due to its short length and the inability for additional players to join the action mid-game. It also released *Teenage Mutant Ninja*

» [PC] What you can't see is that this game runs at a smooth 60 frames per second. It looks great.

CROSSOVER CAPERS

SOME OF THE PARTIES THE FEARSOME FOURSOME HAVE BEEN INVITED TO CRASH

SMITE

This free-to-play MOBA pits various deities and their minions against each other in a battle for supremacy. The Turtles arrived as part of a battle pass in 2020, with the characters acting as skins for Osiris, Loki, Mercury and Sun Wukong.

INJUSTICE 2

This DC Comics crossover fighter is the perfect environment for the darker incarnations of the Turtles, akin to what you'd see in the comics rather than the cartoons. All four characters were released as a single DLC pack in 2018.

NICKELODEON KART RACERS

Imagine *Mario Kart*, but with the Turtles racing against the cast of *Hey Arnold*, *Rugrats* and *Spongebob Squarepants*. They also show up in two sequels, which significantly expand the roster while inexplicably failing to include characters from *Kenan & Kel*.

Turtles: Arcade Attack for the DS, a truly unfortunate beat-'em-up which was derided by the press for being simple, repetitive and easy.

The best of the trio was *Teenage Mutant Ninja Turtles: Smash-Up*. The title of the game provides a clue as to its nature, as *Super Smash Bros Brawl* co-developer Game Arts was enlisted to create a *Turtles*-themed clone of the popular party fighter. In a 6/10 review, *games™* stated that it "lacks that sense of celebration that permeated *Brawl*", complaining that relatively few of the interesting characters and locations were utilised, and judged the use of a traditional life bar to be a mistake. Other reviews scored it a little higher, but the overall impression was that it was a decent effort that would struggle to avoid being overshadowed by its inspiration on the Wii. A PS2 version was released in North America, which lacked four of the Wii game's characters – Fugitoid and three of Ubisoft's Rabbids mascots.

Activision would be the next to take up the half-shelled heroes, and its era got off to a truly disastrous start with *Teenage Mutant Ninja Turtles: Out Of The Shadows*, a budget-priced downloadable game for Xbox 360 and PC released in 2013. *Xbox: The Official Magazine* condemned the hack-and-slash adventure for its low framerate, poor camera, "mindless" platforming and "braindead" combat, awarding the game 2/10. The PS3 release in 2014 made some technical improvements, but not enough to improve the general perception of the game.

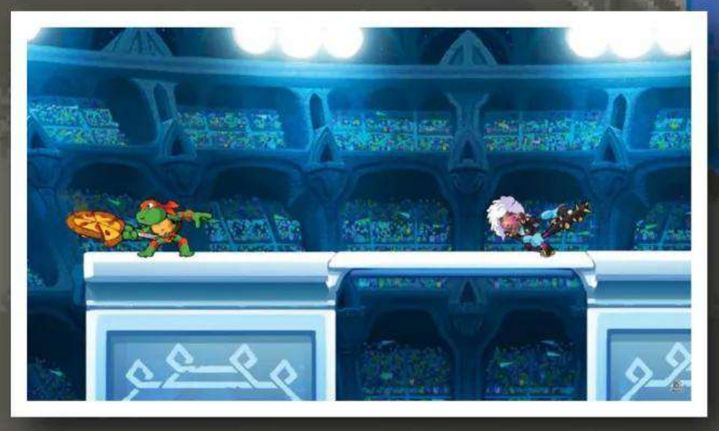
Somehow the developer Magic Pockets managed to limbo under that low bar with *Nickelodeon Teenage Mutant Ninja Turtles*, based on the computer-animated TV series from 2012. *X-One* magazine blasted the beat-'em-up, saying that it was "bereft of any worthwhile gameplay or narrative" and awarding the Xbox 360 version a measly score of 2/10. The Wii and 3DS versions didn't fare much better, and the PS3 and Wii U versions never saw the light of day.

Activision turned to well-known studios for its next games, but the improvements were more modest than expected. WayForward Technologies took on *Teenage Mutant Ninja Turtles: Danger Of The Ooze* for Xbox 360, PS3 and 3DS in 2014, delivering a Metroidvania that IGN described as having "little actual life and soul to it" in a 5/10 review. *Bayonetta* developer Platinum Games was behind *Teenage Mutant Ninja Turtles: Mutants In Manhattan*, released for Xbox 360, Xbox One, PS3, PS4 and PC in 2016. Activision had previously worked with the Japanese team on *The Legend Of Korra* and *Transformers: Devastation*, and you'd expect it to be the ideal match for this kind of project, but with just seven months between *Transformers* and *Turtles*, the team had clearly been stretched too thin. *PlayStation Official Magazine*'s 5/10 review sums up the mood nicely, stating that, "Almost every idea included here is a strong one – yet they've all been executed terribly."

» [PS2] *Mutant Melee* offered a promising concept that we'd like to see tried again one day.

» [Wii] With more characters and settings, a *Turtles Smash* clone could have been a winner.

» [Game Boy Advance] *TMNT* looks totally gorgeous on the GBA, but went under-appreciated in its time.



BRAWLHALLA

■ This free-to-play fighter from Ubisoft features dozens of crossover characters, allowing the Turtles to fight characters from *Adventure Time*, *Castlevania*, *GI Joe*, *Street Fighter* and *The Walking Dead*. As in *Smite*, they're premium skins for existing characters.

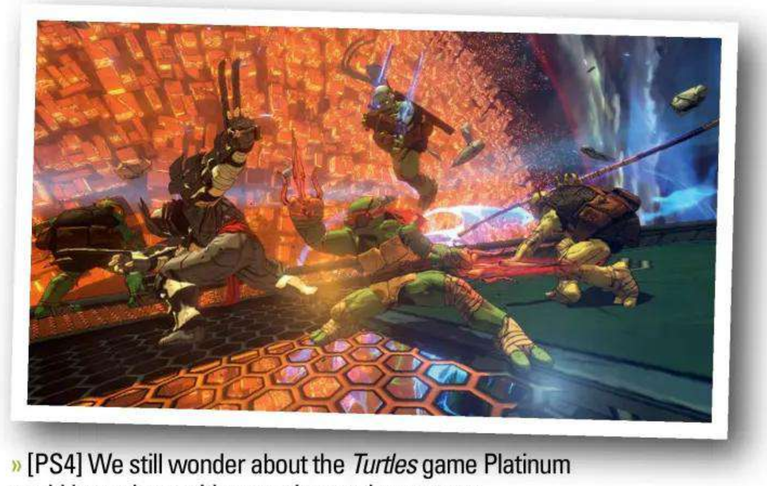
NICKELODEON ALL-STARS BRAWL

■ Imagine *Super Smash Bros*, but with the Turtles fighting against the cast of – oh wait, we've done that already. We appreciate that it allows us to chop Spongebob into cushion stuffing, and to show Garfield that pizza always beats lasagne.

» [DS] Catching a ride with Casey Jones is certainly one way to have a wild night.

» [PS3] WayForward has made great games including the *Shantae* series, so it's unclear what went wrong here.

» [Xbox 360] We're surprised that *Nickelodeon Teenage Mutant Ninja Turtles* got a physical release over *Out Of The Shadows*.



» [PS4] We still wonder about the *Turtles* game Platinum could have done with more time and resources.

» [Switch] Fun fact: Ghostface Killah and Raekwon are on the soundtrack to *Shredder's Revenge*.

Thankfully, the Turtles soon got back on top form. Raw Thrills delivered an arcade beat-'em-up in 2018, *Teenage Mutant Ninja Turtles*, which Arcade Heroes described as "just like an early Nineties brawler" and "totally worthy of a 'cowabunga!'" Two big projects arrived in 2022, one of which was Konami's *Teenage Mutant Ninja Turtles: The Cowabunga Collection*, discussed in the boxout, Delivery? No Collection. The other was DotEmu's *Teenage Mutant Ninja Turtles: Shredder's Revenge*. It's dripping with nostalgic appeal thanks to its pixel art and Tee Lopes' soundtrack, but the retro connections go deeper. Speaking to *PC Gamer*, DotEmu CEO Cyrille Imbert noted that *Streets Of Rage 4*'s success "reassured us that beat-'em-ups could still be a thing", while key staff at the developer Tribute Games had worked on the Game Boy Advance version of *TMNT* and felt that it "wasn't able to live up to its full potential".

Tribute's Jonathan Lavigne told *PC Gamer* that differentiating *Shredder's Revenge* from past efforts involved highlighting the differences between the characters. "We wanted to differentiate them more and more. We looked into translating their personalities more into their movesets. Some of it came from the animations, like the animators were excited and pushed for a move." The level design goal was for, "Each mission to feel like an episode of that TV show – self-contained but feeding into a larger story." Play felt that the result was "better than returning to the classics" and that the only major criticism was "too much faithfulness to *Turtles In Time*", awarding the game 8/10.

Seeing *Turtles* rise to prominence again has been fantastic to see, because it shows that it really is an elite licensed property. Many players will automatically think back to Konami's early efforts when *Teenage Mutant Ninja Turtles* games come up in conversation, and while the likes of *TMNT* on the Game Boy Advance and *Shredder's Revenge* certainly build on the successes of those games, they also go to show that great *Turtles* games are not the preserve of a single company or a particular era. If you're having some friends over any time soon, bust out some extra controllers and something starring the Teenage Mutant Ninja Turtles – you'll doubtless remind yourself that they're not just a perfect part of a pizza party, but ideal videogame heroes too. ✱

THE ADVENTURER'S GUIDE TO

THE LEGEND OF ZELDA

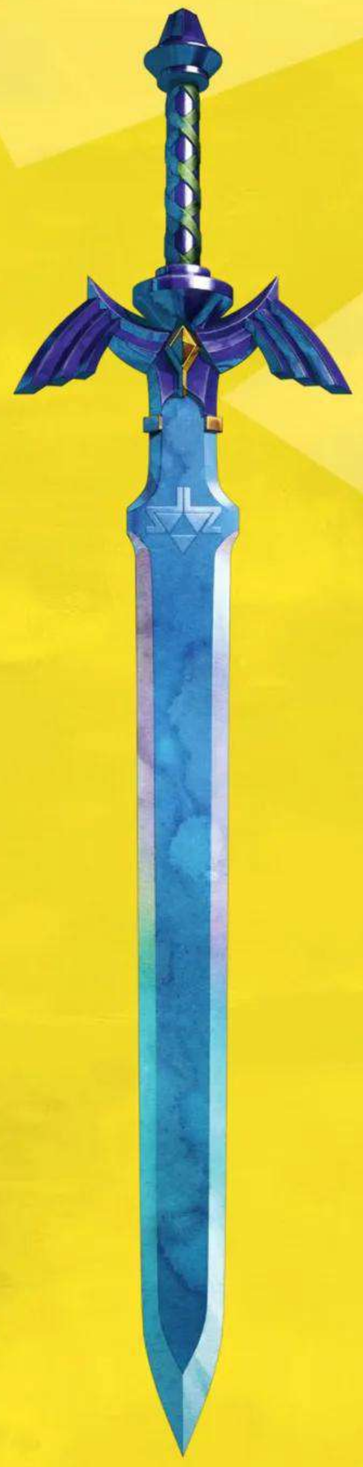
FOR DECADES, THE LEGEND OF ZELDA HAS BEEN A NAME SYNONYMOUS WITH QUALITY IN THE ACTION ADVENTURE GENRE, AND ONE OF NINTENDO'S MOST POPULAR SERIES. WE TAKE A DEEP DIVE INTO THE QUALITIES THAT MAKE LINK'S ADVENTURES SO TIMELESS

WORDS BY ALAN WEN AND NICK THORPE

In the grand pantheon of Nintendo series, there's no question that *The Legend Of Zelda* ranks as one of the elite. While Mario has the bigger sales overall, Link's adventures have proven just as dependable for the Japanese giant – the series has made appearances on every major Nintendo console and handheld platform, and provided the tent pole launch games for the company's two most successful home consoles. It's also a series that continues to grow as the most recent entry in the series, *The Legend Of Zelda: Breath Of The Wild*, is one of the very few videogames ever to sell over 30 million copies.

It's safe to say that players love *Zelda*, and the series has stayed in their hearts and minds for decades because of its incredible consistency. Start up the original NES game or jump into *Breath Of The Wild*, and the sense of boundless possibility is the same as you're thrust into a wide-open world with little imperative but to explore. In practically every game in the series, you'll run into enemies like Octoroks and Armos statues, and you'll pay frequent visits to places like Hyrule Castle and Death Mountain. If you first encountered the series in the Eighties, it has grown up with you, and if you came in later you can explore past games without them feeling alien.

What's more remarkable is that such consistency has been achieved without sacrificing versatility. The *Zelda* series is capable of great tonal changes, which are clearly the result of deliberate design choices rather than being part of a gradual shift – just think back to the contrast between the unsettling pre-apocalyptic setting of *Majora's Mask*, the bright and breezy cartoon aesthetic of its immediate successor *The Wind Waker* and the darker and more serious tone of the next game, *Twilight Princess*. No matter your taste, there's probably a *Zelda* to match it.



Of course, the series keeps a large proportion of its fans from game to game, because the plot and aesthetic choices are always underpinned by rock-solid action adventure game design. Almost every game in the series has received overwhelming critical acclaim, with the original recognised as a revolutionary game that set the foundations for later action RPGs, and *Ocarina Of Time* likewise for transitioning the action adventure into 3D so successfully, providing a template for other developers to learn from during the formative years of 3D game design.

Over the coming pages, we'll be celebrating the *Zelda* series with developers and fans that have been inspired by the franchise. From its world and its inhabitants to the challenges that stand between Link and his heroic destiny, as well as the tools that he uses to overcome them, we'll be taking a deep dive into what makes it tick – and by the end, no matter whether you prefer 2D or 3D games and regardless of which atmosphere suits you best, we're sure you'll be raring to start your next adventure with Link. ▶

INTERVIEWEES

CONNOR PATRICK QUINN
■ Artist and director, *Lil Gator Game*

SCOTT SULCHER
■ Lead developer, *Lil Gator Game*

ROB MAHER
■ Lead developer, *Blossom Tales*

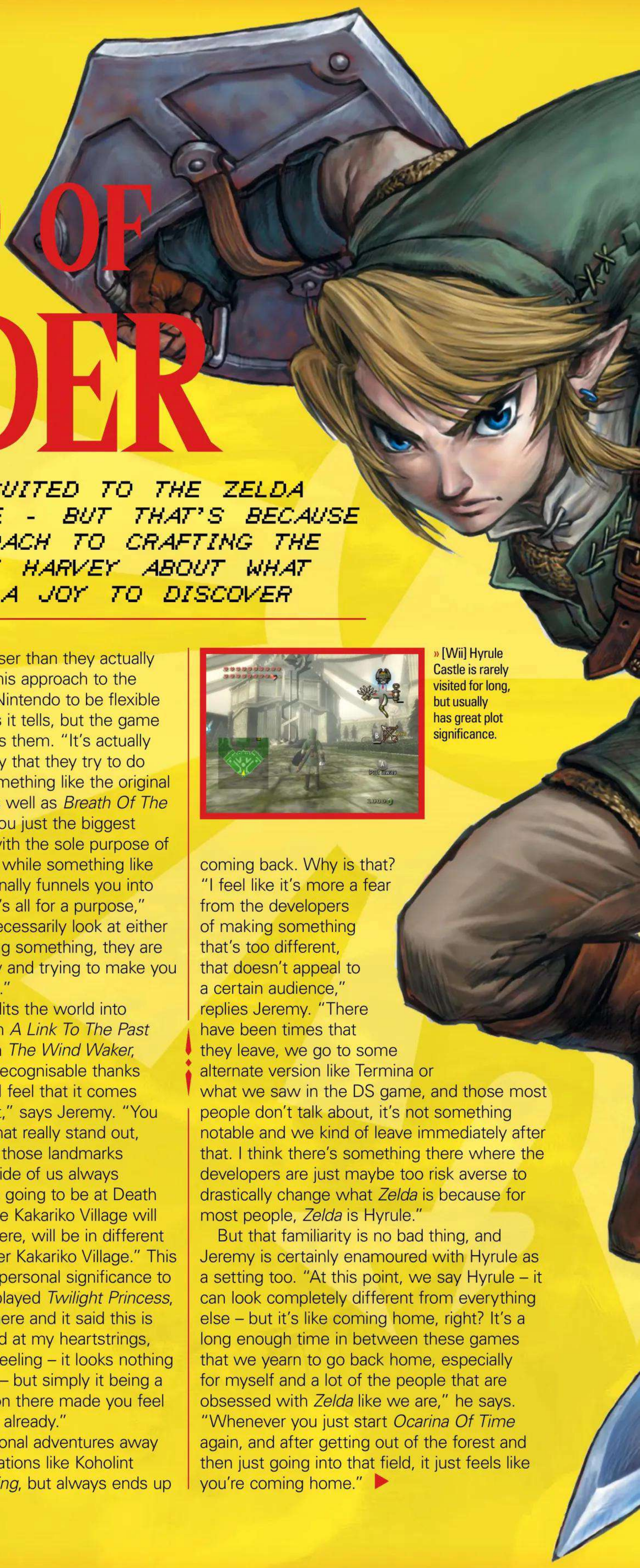
GREG LOBANOV
■ Lead developer, *Wandersong* and *Chicory: A Colorful Tale*

MELOS HAN-TANI
■ Co-creator and musician, *Anodyne*

JEREMY HARVEY
■ Co-host, *Chat Of The Wild* podcast

NICOLAS CANNASSE
■ Creator and game director, ***Evoland***

WORLD OF WONDER



HYRULE IS ALWAYS UNIQUELY SUITED TO THE ZELDA GAMES THAT TAKE PLACE THERE - BUT THAT'S BECAUSE OF NINTENDO'S UNUSUAL APPROACH TO CRAFTING THE LOCATION. WE TALK TO JEREMY HARVEY ABOUT WHAT MAKES ZELDA'S SETTING SUCH A JOY TO DISCOVER

Adventurers are nothing without a place to explore, and in the *Zelda* series that usually means Hyrule – while it isn't the setting for every game in the series, it is the central setting that is most frequently revisited and the one that most players could name. It is just as much a part of the series iconography as Link, Zelda, Ganon, the Triforce or the Master Sword.

Despite the consistency with which it appears in the *Zelda* games, Hyrule itself is anything but consistent. With the *Zelda* games taking place in multiple timelines and centuries apart, it's no surprise that it would undergo more changes than some other famous videogame locations. However, that's not the only way to explain the variance. "Personally, I still like the idea of [the games] being a legend – I would love it if one day we actually get to meet the storyteller of all of these legends," says Jeremy Harvey of the *Chat Of The Wild* podcast. "You have bits and pieces that connect, but like in your own imagination, where you try to remember how things were, places are further or closer than they actually were." One benefit of this approach to the setting is that it allows Nintendo to be flexible not only with the stories it tells, but the game design that accompanies them. "It's actually really interesting the way that they try to do that. When you take something like the original *The Legend Of Zelda* as well as *Breath Of The Wild*, where they give you just the biggest room to run around in with the sole purpose of allowing you to explore, while something like *Skyward Sword* intentionally funnels you into places and feels tight, it's all for a purpose," says Jeremy. "I don't necessarily look at either one as not accomplishing something, they are going about it differently and trying to make you feel something different."

» [N64] Kakariko Village is usually a fairly peaceful place inhabited by good, ordinary folk.

Whether Nintendo splits the world into light and dark sides as in *A Link To The Past* or floods the world as in *The Wind Waker*, Hyrule usually remains recognisable thanks to landmark locations. "I feel that it comes back to the legend point," says Jeremy. "You have these landmarks that really stand out, and what happens with those landmarks is largely different. Outside of us always knowing the Gorons are going to be at Death Mountain, something like Kakariko Village will have different people there, will be in different states, but we remember Kakariko Village." This particular example is of personal significance to Jeremy. "Even when I played *Twilight Princess*, when I first went into there and it said this is Kakariko Village it tugged at my heartstrings, because I just had this feeling – it looks nothing like the *Ocarina* version – but simply it being a name and it appearing on there made you feel like you knew this place already."

Link does take occasional adventures away from Hyrule, visiting locations like Koholint Island in *Link's Awakening*, but always ends up coming back. Why is that? "I feel like it's more a fear from the developers of making something that's too different, that doesn't appeal to a certain audience," replies Jeremy. "There have been times that they leave, we go to some alternate version like Termina or what we saw in the DS game, and those most people don't talk about, it's not something notable and we kind of leave immediately after that. I think there's something there where the developers are just maybe too risk averse to drastically change what *Zelda* is because for most people, *Zelda* is Hyrule."

» [Wii] Hyrule Castle is rarely visited for long, but usually has great plot significance.

But that familiarity is no bad thing, and Jeremy is certainly enamoured with Hyrule as a setting too. "At this point, we say Hyrule – it can look completely different from everything else – but it's like coming home, right? It's a long enough time in between these games that we yearn to go back home, especially for myself and a lot of the people that are obsessed with *Zelda* like we are," he says. "Whenever you just start *Ocarina Of Time* again, and after getting out of the forest and then just going into that field, it just feels like you're coming home." ▶

» [NES] Death Mountain was Ganon's original home, but Gorons usually live there today.

» [SNES] The introduction of a mirrored world brought a new dimension to *A Link To The Past*.

» [Game Boy] Adventures outside of Hyrule, like *Link's Awakening*, tend to garner less fan discussion.

» [NES] Forests are a common sight in Hyrule – expect to fight plenty of critters.

» [N64] Hyrule Field offers a sense of freedom at the outset of many *Zelda* adventures.

Q&A

NICOLAS CANNASSE

EVOLAND'S CREATOR OPENS UP ON ZELDA'S OPEN WORLDS

Why do you think *Zelda*'s overworld is so fun to explore?
There's a lot of sense of exploration in a *Zelda* overworld. First there's different distinct areas which you can explore individually, but also you are not very limited in the order in which you can discover them. It's also full of secrets and surprises, so the exploration, and in general, the player's curiosity, is rewarded.

Zelda games often contain two dual worlds. Did this influence the changing worlds of _Evoland_?
Yes definitely, I remember classics like *A Link To The Past* which had this Dark World where you could teleport between the two and use it to access secrets, that was very fun. It's a great way to have a more complex way to travel between worlds. Who would not love to be able to do that?

What's the most impressive *Zelda* overworld you've encountered and why?
I'm personally a big fan of *The Wind Waker*. Having the world divided into islands which you can freely navigate and explore really felt awesome the first time I played it.

What do the 3D overworlds of *Zelda* offer compared to their 2D counterparts?
In a 3D *Zelda* you have to use your camera to get insight about secrets that you can't reach yet, or access some places that were not visible by default. That's a very good tool to hide secrets, and also create a sense of being actually part of the world. On the other hand, a 2D top-down view is always perfect for complex puzzles! That's why in *Evoland* we enjoyed going from 2D to 3D, so we could use the best parts of both to create a unique experience.

INTRIGUING INHABITANTS

WHAT IS A WORLD WITHOUT THE PEOPLE IN IT? LIL GATOR GAME DEVELOPERS SCOTT SULCHER AND CONNOR PATRICK QUINN DISCUSS THE FAMILIAR AND ECCENTRIC CHARACTERS THAT INHABIT HYRULE AND HOW THEY MAKE THE LEGEND OF ZELDA'S STORIES AND QUESTS MEMORABLE

Almost every *Zelda* title revolves around Link, Zelda and Ganon, but while that is essentially the legend being retold time and time again, it would be a disservice to ignore the large cast of characters that populate Hyrule that have their own roles to play in your growth into becoming a hero. Even in the original *The Legend Of Zelda*, who can forget the old man in the cave and his single iconic line, "It's dangerous to go alone! Take this," before giving you your sword.

But from *A Link To The Past* onwards, we've also seen a growing cast of familiar races and recurring characters that are almost expected to return with each retelling of the legend in a way that's nearly unique to the series.

"Any game that runs for as long as the *Zelda* series has different liberties that it can take compared to a game that only comes out once," says Connor Patrick Quinn, writer and art director of *Lil Gator Game*. "So in any sequel, you're gonna see everybody's favourite characters. I think that the familiarity increases everyone's joy with the series, it gives you something to latch on to, no matter what weird mechanics they're going for this time. It's marketable, mostly, but I think the people who write the characters are as invested in them as much as fans are."

Although the *Zelda* timeline is at best tenuous and messy, it's nonetheless fascinating to see how certain characters evolve with each instalment, such as Impa, Zelda's guardian, who was first designed as an elderly woman who actually only appeared originally in the instruction manuals but was reimagined as a bad-ass bodyguard in *Ocarina Of Time* (all the more so in spin-off *Hyrule Warriors*), while a bit of both identities are depicted in *Skyward Sword*. But perhaps more interesting are the recurring characters who return time and again the same.

"The ones that stick out the most to me are Tingle and Beedle, even the Happy Mask Salesman, because they're just so weird!" says *Lil Gator Game*'s lead developer and programmer Scott Sulcher. "We kind of based one of the characters in our game off of that kind of weird-guy archetype."

"They have the same name, the same design, they do the same thing, and that's interesting!" Connor adds. "It's interesting that, as far as main characters go, they pay a lot more attention to revising them to fit the content and the timeline. But these weird little guys on the side do the same thing, and we love them for it."

That's not to say that *Zelda* games are just a constant rehash of old ideas. Interestingly, both Connor and Scott's favourite *Zelda* titles are unique in introducing new one-off races, respectively the Minish in *The Minish Cap* and the Twili in *Twilight Princess*. These were also instalments both praised for having refreshing takes on guides that had a personality and arc, which also offer resistance to Link as opposed to the usual respect and admiration you're garlanded with throughout your adventures.

But even in minor roles, the support characters in *Zelda* feel unique in the way they're tied to the game's quests, especially ones that are known to stretch throughout the course of the game, from the item-trading sequence in *Link's Awakening* to helping out every character over the course of the three repeating days of *Majora's Mask*.

Sometimes it's just a case of feeding into the desire to have collectibles, but even the Gratitude Crystals quest in *Skyward Sword* has a personal element to it as you're helping the demon Batreaux become human but also helping the inhabitants of Skyloft, such as playing matchmaker. That's despite your ulterior motive being to gain Rupees, Heart Containers, or any other reward.

"Characters aren't as important for that as the sense of progression," says Connor. "If you've got a cool story to tell, I might stop and listen to it. But getting things is motivating. It's an important part of any videogame."

Scott notes there's a fine balance and conflict between designing memorable characters that also fulfil a function, especially when peeled back these NPCs may just be glorified quest givers. "More dialogue doesn't necessarily make a character more interesting in any way; sometimes a character is one-note or just one joke, but that's all you need," he says. "[For *Lil Gator Game*] we wanted to make sure that every character had some sort of joke or mechanic to them that made them worth your time."

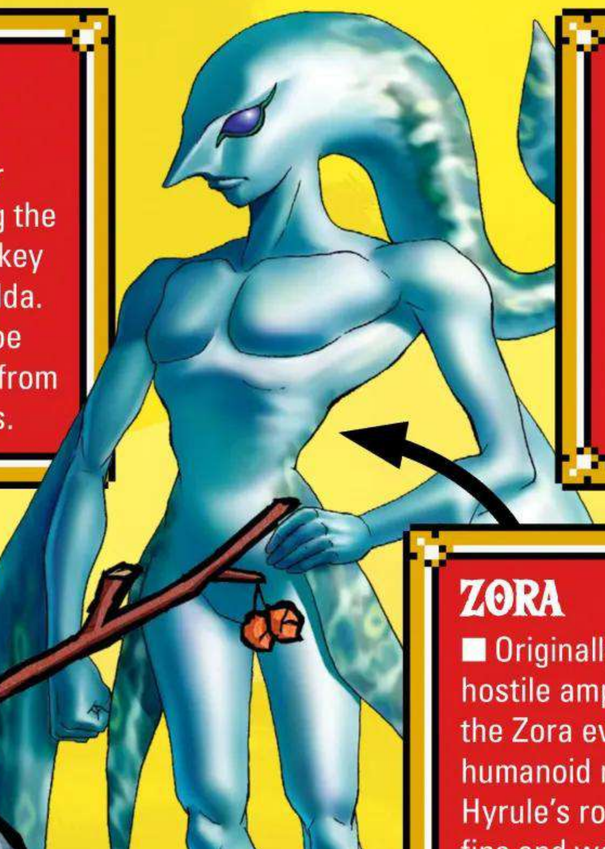
"People don't remember collecting Korok Seeds or collecting Mysterious Shells, but they do remember the story," says Connor. "But the thing that got them in between those good story elements was the little knick-knacks they collected. If you don't have anything in between, you don't get there and nobody experiences that story." ▶

HYRULE'S INHABITANTS

THE RACES YOU'LL ENCOUNTER IN HYRULE'S HISTORY

HYLIANS

■ The majority of the people who live all over Hyrule, as well as being the race of the series' two key characters Link and Zelda. Hylians can be said to be Hyrule's humans apart from their elf-like pointy ears.



SHEIKAH

■ The Sheikah are a secretive tribe who largely existed in ancient times as a technologically advanced civilisation. Although they are traditionally the chosen protectors of the goddess Hylia's mortal incarnation (ie Zelda), there's also a separate evil faction, the Yiga Clan.

ZORA

■ Originally encountered as hostile amphibious enemies, the Zora evolved into a more humanoid race with close ties to Hyrule's royal family. With gills, fins and webbed feet that make them excellent swimmers, they largely reside in Zora's Domain.

KOROKS

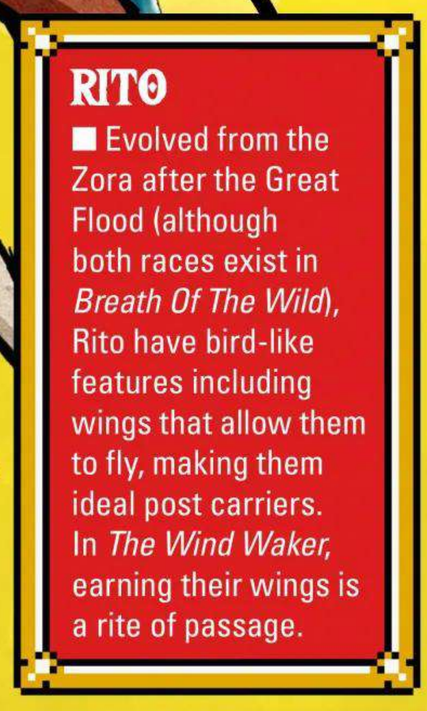
■ Originally the Kokiri, these ageless children of the forest evolved after the Great Flood into diminutive wooden spirits. While still residing with the Great Deku Tree, they can be found all over Hyrule in *Breath Of The Wild*.

GORONS

■ First appearing in *Ocarina Of Time*, the Gorons are a large race who can get around by rolling up into a ball, and have a diet of rocks. They're usually found in mountainous and volcanic regions, most notably Death Mountain.

GERUDO

■ A desert-dwelling race comprised almost entirely of women, with only one male Gerudo born apparently once every hundred years. Some Gerudo have taken to travelling beyond the desert to become merchants, and as a way to find a male partner.



RITO

■ Evolved from the Zora after the Great Flood (although both races exist in *Breath Of The Wild*), Rito have bird-like features including wings that allow them to fly, making them ideal post carriers. In *The Wind Waker*, earning their wings is a rite of passage.

KIKWI

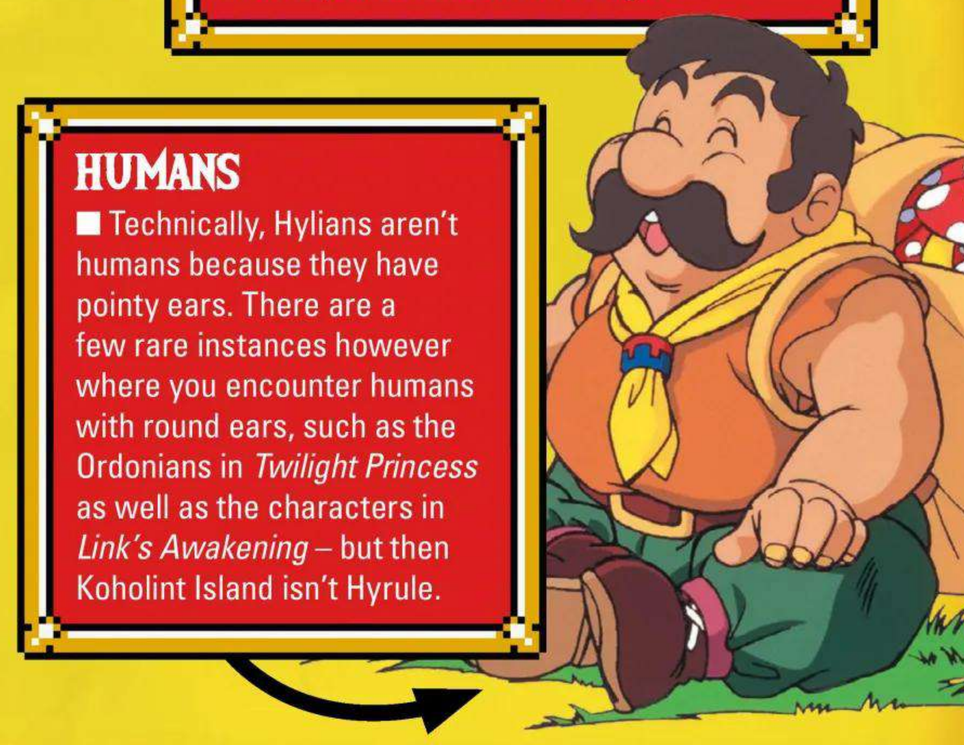
■ These furry, pear-shaped creatures reside in Faron Woods beneath the clouds in the world of *Skyward Sword*. They're also a fairly cowardly bunch, with a bud on their backsides turning into a leafy bush that helps them hide from danger.

TWILI

■ A race of shadow beings with glowing marks on their skin, the Twili come from the Twilight Realm, a parallel world to Hyrule. Although they're largely a peaceful tribe, many were transformed into Shadow Beasts by the usurper King Zant.

MINISH

■ Also known as Picori, these are tiny pointy-eared mouse-like beings no larger than the size of your thumb. Minish dwell in forests, in the mountains, while those with an affinity for humans can also be found in towns.



HUMANS

■ Technically, Hylians aren't humans because they have pointy ears. There are a few rare instances however where you encounter humans with round ears, such as the Ordonians in *Twilight Princess* as well as the characters in *Link's Awakening* – but then Koholint Island isn't Hyrule.

DUNGEON DELVING

NO GAMES DO DUNGEONS QUITE LIKE DUNGEONS IN ZELDA, OFTEN THE GAMES' HIGHLIGHTS THAT CHALLENGE YOU WITH EXPLORATION, PUZZLES AND COMBAT IN PERFECT BALANCE. BLOSSOM TALES DEVELOPER ROB MAHER DISCUSSES THE RECIPE BEHIND THE ZELDA SERIES' UNIQUE DUNGEON DESIGNS

When we think of dungeons in videogames, it's usually associated with RPGs, as you fight hordes of enemies while seeking valuable gear and loot, such is the case with dungeon crawlers. But dungeons in the context of *The Legend Of Zelda* are their own unique recipe. They're the main event, crystallising all of the game's fundamentals in labyrinthine structures that challenge you with exploration, puzzles and combat.

"*Zelda* dungeons can be linear, while some allow for exploration by giving [the player] optional rooms, overlapping paths, obstacles they can't get through and they're not really sure how, until they get an item farther down and then it clicks in their head that they can come back to this spot they couldn't progress before," says Rob Maher, co-creator of the *Blossom Tales* series. "If I had to pick one defining element to *Zelda* dungeons, it would be that you're getting an ability and then you're able to use that ability to open up barriers."

While the *Blossom Tales* games are heavily inspired by the top-down 2D *Zelda* games, Rob admits his first proper *Zelda* game was *Ocarina Of Time*. "I didn't grow up playing with SNES, so when I got to play *A Link To The Past* at friends' houses, I didn't really get to dig into it," he explains. "In college, when I was starting to get into game development and programming frameworks, I played it all the way through just because I wanted to see exactly what that formula was back then, and it turns out it's really very similar to the modern *Zeldas*."

It's not just that you'll find recurring items in both 2D and 3D games, such as the bow, bombs, or Hookshot, and that they're often important in solving specific puzzles as well as being handy against enemies, but they also stick to a well-honed template of how you explore a dungeon. Typically, the first few rooms you're navigating the unknown until you eventually discover the dungeon map, then a compass, before finding a new item, and of course the key to the boss. "I feel like a lot of games that give you a mini-map means there's

BRAVE NEW WORLD

HOW NINTENDO INTRODUCED ZELDA'S 3D DUNGEONS

A HELPFUL GUIDE

■ 3D can be daunting for new players. Luckily, Navi is available to guide you when you get stuck and help you look at old puzzles in ways you might not have considered. Listen to her often.

LOOKS FAMILIAR

■ Moving away from 2D designs meant having new ways to approach dungeons. The ability to look around your brand-new three-dimensional world proved to be a godsend and is still helpful in new *Zelda* games.

EXPANDING ITEMS

■ Items like the Fairy Slingshot were not only required to master the dungeon you found them in (just like earlier *Zelda* games), but also made it much easier to navigate the new 3D environments.

» [N64] The Great Deku Tree is not only a living dungeon, but a great way of understanding *Zelda*'s new 3D world.

a lot of staring at the mini-map," says Rob. "*Zelda* forces the player to actually look at the physical world that you're in first so that they build a mental model in their head."

Similar to other dungeon crawlers, rewards are just as prized in a *Zelda* dungeon. But while you might find Rupees or Heart Pieces, the most valuable find is usually a new item that lets you progress further in the dungeon, even if a cynic might call it a glorified keycard. "It is kind of a key card because it lets you through a barrier," Rob concedes. "But hiding that from the player behind a bunch of stuff, that's part of the real challenge in a *Zelda* dungeon. It's the invisible hand of the developer that guides you along, as you get a key that doesn't feel like a key, and you're exploring and putting things together."

Another common element with *Zelda* dungeons are its aesthetic themes, with Rob saying *Ocarina*'s Forest Temple is his favourite. It's perhaps why the Divine Beasts in *Breath Of The Wild* disappointed traditional fans as dungeons. "When I think of a dungeon, I think of it more of an abstract thing, which is just a big puzzle," says Rob. "I think the big disconnect with people was that each of the designs of the Divine Beasts follow the same sort of aesthetics, without as strong environmental themes."

Take a step back however, and one might also argue that the overworld is itself like a dungeon, which certainly felt the case with the areas beneath the clouds in *Skyward Sword*, before being realised as a whole open-world sandbox in *Breath Of The Wild*. "A big part of any *Zelda* dungeon is giving the player something new to progress through the game," Rob agrees. "Even if it's not in the dungeon, there are items and mechanics that let the player unlock the game world. You might be in the middle of a dungeon where you get an item that makes you think of how you can progress through a part of town. It expands the player's mental model of the game world." ▶

EASY NAVIGATION

■ Despite utilising a slick new 3D look, navigating *Zelda*'s new dungeons was always easy thanks to Nintendo's insistence on making maps exceptionally easy to follow. It's hard to get lost in most 3D *Zelda* dungeons.

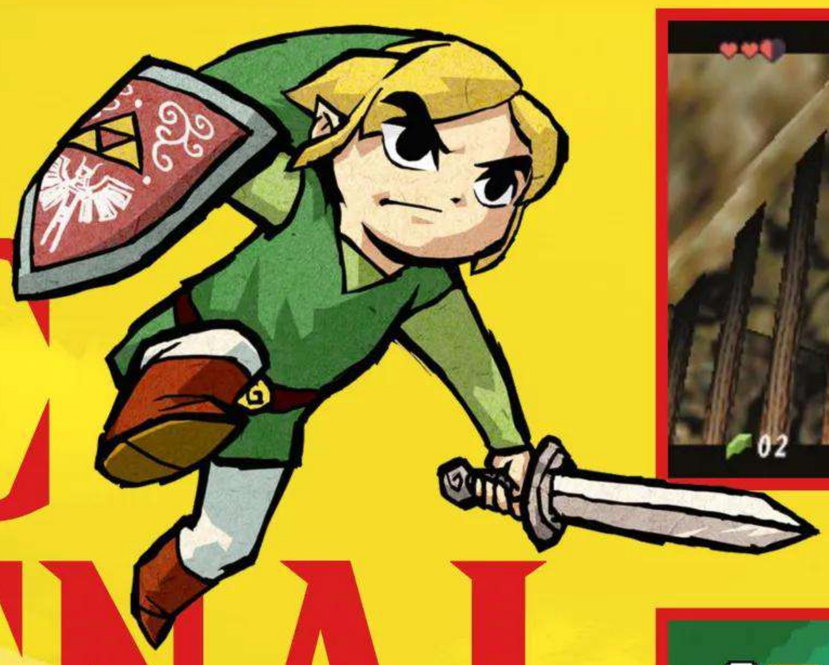
BRAVE NEW WORLD

■ The new dimension not only introduced new puzzle mechanics for *Zelda*'s dungeons, but could also make puzzles easier to solve as you could often look at them from a variety of new angles.

BOLD BOSSES

■ *Zelda*'s boss battles have always been a delight to experience, but the move to 3D often makes the encounters feel even more special. Gohma is a great example as it really makes full use of its large 3D chamber.

ICONIC ARSENAL



BOMBS AND BOWS, BOOMERANGS AND BIG SWORDS - LINK'S WEAPONRY ALLOWS HIM TO THRIVE IN ENCOUNTERS WITH HIS MANY FOES, BUT NINTENDO HAS ALWAYS ENSURED THAT THE EQUIPMENT HE GATHERS HAS SIGNIFICANCE FAR BEYOND ITS OBVIOUS APPLICATION IN COMBAT

» [N64] Although the bow is Link's traditional ranged weapon, sometimes a slingshot will suffice.

» [SNES] Getting the Master Sword is always a key moment in the *Zelda* games.

One thing Link certainly isn't short of is adversaries – almost everywhere he goes, he's under constant threat from all manner of monsters. The tools of the hero trade are weapons with which to beat back the baddies, and in any *Zelda* game you'll need to equip yourself appropriately before you can even think about defeating Ganon or rescuing Zelda. Fortunately, Nintendo has carefully crafted a range of weapons which ensure that combat is always a satisfying part of any *Zelda* game.

The Legend Of Zelda is relatively unusual among games of its era, in that Link is wholly unarmed when his adventure begins. This might seem an odd choice as the first thing he does in the game is to find a sword, but that overlooks the symbolic value of the action – Link is an ordinary boy who becomes a hero, and taking up the sword is the action that officially sets him on that journey. That's a theme repeated throughout the series, and each incarnation of Link's growth as a hero is represented by the later acquisition of the iconic Master Sword. Being the core part of Link's combat capability, swordplay tends to get the most attention with plenty of moves at his disposal across the series.

There's a lot more to Link's arsenal than simple swordplay though. From the beginning of the series, players have had access to bombs, boomerangs, a bow and arrow, and more, giving you additional combat options like explosive damage and ranged attacks. Shields, though less versatile, are also important within Link's combat repertoire. Link's defensive items don't just enrich combat by giving players more options, they help to shape our image of Link. Without the need to take cover the protagonist would feel like a powerful, all-conquering force of nature, rather than the resilient and resourceful hero who battles against the odds.

In fact, Link is really defined by his equipment. As a silent protagonist he has precious few personality traits to carry from game to game, so having a consistent look, set of abilities and equipment is crucial to establish continuity. That even works outside of the *Zelda* series – just look at Link's appearance in *Soulcalibur II*, in which he is differentiated from a cast full of sword fighters by the use of his most iconic alternative weapons.

But what's particularly interesting is that most of Link's equipment has more than one use. Take the Hookshot, which at first glance appears to be solely a utility item for traversing difficult terrain, but doubles as a useful combat tool due to its ability to stun enemies. In *The Wind Waker*, it plays a key role in the first boss fight against Gohma, first being used to pull rocks onto its head before allowing you to drag the enemy into striking range. Having multipurpose items is one of the great strengths of the *Zelda* series – it keeps the inventory lean and encourages players to experiment with Link's equipment in a variety of different situations. Long may it continue.

» [NES] Link's first time with a sword is an iconic scene in gaming history.

» [Switch] You can cause an enormous amount of havoc with bombs in *Breath Of The Wild*.

» [GameCube] Although adequately armed, Link can grab the weapons of fallen enemies in *The Wind Waker*.

TAKE THESE

FIVE ITEMS THAT USUALLY PROVE KEY TO LINK'S SUCCESS

MASTER SWORD

■ A legendary blade that must be found as part of Link's journey, as it alone holds the power to seal away evil and defeat Ganon. It usually has a blue hilt, and is found at a special pedestal.

BOOMERANG

■ Rather than causing damage, the boomerang is usually used to stun enemies ahead of sword attacks. They're very useful in dungeons, as they can retrieve distant items and hit otherwise inaccessible switches.

BOMB

■ As you'd expect, bombs can be thrown or placed and will detonate after a short period of time, causing explosive damage. They're often required to break rocks and other obstacles that Link faces.

BOW

■ If you want to attack baddies from a distance, the bow is the ideal way to do it. Although limited in supply, Link's arrows can be infused with various magical properties to better deal with specific enemies.

HOOKSHOT

■ Although it's more suited to movement, this grappling hook can stun enemies and sometimes bring them closer to Link, enabling him to deliver a follow-up attack more swiftly than running over by himself.

Q&A

MELOS HAN-TANI

THE CREATOR OF ANODYNE DISCUSSES LINK'S WEAPONRY

Why do you think the sword makes a good basic weapon for the *Zelda* series?

Being made in the Eighties, the sword was a popular choice amongst other high fantasy-inspired action RPGs such as *Zelda*'s predecessors, *The Tower Of Druaga* and *Hydlide*. I would have perhaps chosen a broom, but a sword is a classic symbol of 'Human Vs Environment,' and it's obvious and intuitive what it's for.

Many of the weapons in the *Zelda* games serve a dual purpose, also acting as ways to interact with puzzles. What's the importance of doing this?

Like interactive fiction and text adventures of the Seventies and Eighties, items serve as a way to convey different ways of interacting with a game world, even if they are essentially locks and keys. For example, 1984's *Hydlide* has a Magic Pot, which reveals the entrance of a cave for some reason. It's my theory that *Zelda* (and other action RPGs of the time) were trying to move this 'puzzle logic' of interactive fiction/text games into a more action-y form. The dual combat purpose generally serves as additional entertainment and to reduce the sense of an item just being a 'key' to a 'lock'.

Shields are also a key part of Link's combat equipment – why do you think there's such an emphasis on them?

Likely the high-fantasy roots of Japanese action RPGs. Most games featured a shield – such as *Hydlide*, whose shield is mostly useless, only raising your DEF by a hilariously few points. In borrowing the trope, Link 'standing behind a shield' conveys a sense he's an adventurer of those tales. From a game-design standpoint, I find shields a little boring as they're often equivalent to standing and waiting, but they do offer a simple way for someone to play it safe. I think the combat in the 3D *Zelda* games could be more interesting if the shield wasn't part of the equation.

Do you have a particular favourite among Link's weapons?

For some reason I always thought the level two boomerang in *Oracle Of Seasons* was really cool. Or the Magnetic Gloves. Or the directional Seed Shooter? The *Oracle* games had a lot of strange weapons.

» [PC] Anodyne draws clear inspiration from *Link's Awakening*, the first handheld *Zelda* adventure.

» [PC] Weaponry is a notable point of differentiation between *Anodyne* and the *Zelda* series.

BEASTLY BOSSES

SAVING THE WORLD ISN'T AN EASY TASK, ESPECIALLY WHEN YOU'RE FIGHTING AN ENEMY 20 TIMES YOUR SIZE. BOSS BATTLES PUNCTUATE THE ACTION IN ZELDA GAMES, PROVIDING TESTS OF SKILL AND DRAMATIC MOMENTS THAT SERVE TO ADVANCE THE PLOT

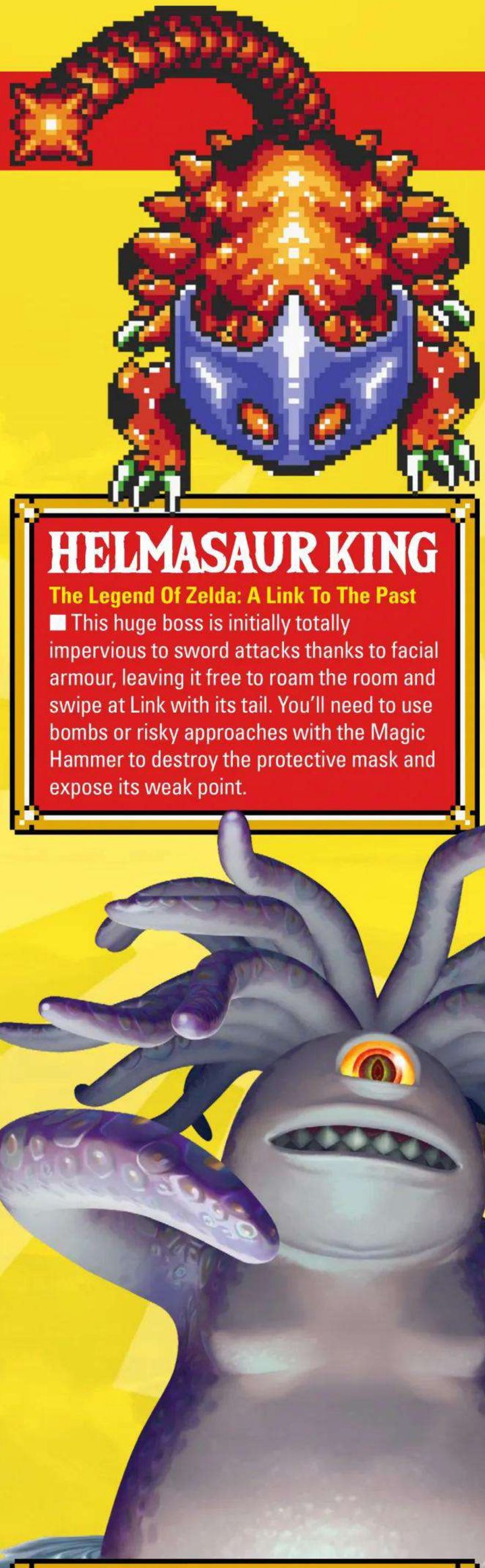
Link is a hero, that's his destiny – and any hero needs to overcome villains. Of course, he encounters hostility throughout his adventures, but beating up a bunch of cannon fodder baddies like Bokoblins and ChuChus doesn't strike anyone as being especially heroic. To prove himself as the legendary hero he's supposed to be, Link needs to take on rather more dangerous foes, from unassuming regular-sized wizards to giant dragons and skeletal monstrosities.

As you can probably guess from the descriptions above, one of the primary purposes that *Zelda* bosses serve is to provide a sense of spectacle – from the very first game the bosses have been larger than Link, and in some games they positively tower over him. The encounters also frequently take place in spectacular areas, atmospheric chambers which show off some of the most amazing sights to be seen in each game. It's obvious that boss battles are a chance for the artists to stretch the graphical capabilities of Nintendo's consoles, but they're designed to give the feeling that Link is outmatched. Watching Link take down an enormous enemy emphasises his skills and ingenuity – and by extension, yours.

You'll need to employ a little ingenuity too, as bosses also serve as a way to force you to change your tactics and explore other combat possibilities. Even if you can get within striking range of a boss, you're rarely likely to get anywhere by simply walking up to your foe and hacking away. The chances are that even if you are required to use the sword, you'll have to do something with one of Link's many other weapons and abilities beforehand in order to expose a weak point. In that way, the bosses introduce a puzzle element as the route to victory is sometimes not obvious at first glance.

Most of Link's epic boss encounters serve as the final challenges within dungeons, with the combination of combat and puzzle elements designed as a way to test your mastery of everything that you've encountered. Most often, any new equipment or skills that you acquire during the course of exploring a dungeon will play a key part in the boss fight, and you'll need to repeat your attack on the boss a few times, in the process proving your proficiency with your new abilities under pressure before you can tackle the next set of even more difficult challenges.

Coming at such key junctures in the game, boss encounters also tend to coincide with key plot points, often involving Link gathering crucial items for his quest or clearing a path to a previously inaccessible area. They help to pace the action as a result, serving as the culmination of a period of intense combat and puzzle solving and giving way to further exposition and soon enough, a return to the more gentle exploration that precedes the next dungeon. While some lament bosses as a difficult sticking point, they're still a key element of the rhythm of the *Zelda* experience. ▶



HELMASAUR KING

The Legend Of Zelda: A Link To The Past

■ This huge boss is initially totally impervious to sword attacks thanks to facial armour, leaving it free to roam the room and swipe at Link with its tail. You'll need to use bombs or risky approaches with the Magic Hammer to destroy the protective mask and expose its weak point.

TENTALUS

The Legend Of Zelda: Skyward Sword

■ This unique battle is as much a daring escape as it is a fight to the death. Tentalus thrusts its tentacles through the Sandship, destroying the decks and forcing Link to find higher ground. That big single eye is the weak point, which you'll need to shoot to open it up for further attacks.

GREATEST GUARDIANS

SOME OF THE MOST MEMORABLE MAJOR MONSTERS LINK HAS FOUGHT

PUPPET GANON

The Legend Of Zelda: The Wind Waker

■ Appearing late in the game, this boss is a memorable encounter because cutting its strings is only the start of the battle. Once you've shot the orb on its tail with Light Arrows, it'll take a spider form, and after that it will adopt the erratic movements of the classic Moldorm enemy.

TWINROVA

The Legend Of Zelda: Ocarina Of Time

■ Koume and Kotake wield fire and ice magic, so using the Mirror Shield to redirect one sister's attacks at the other seems obvious. When they combine into Twinrova you'll need to repeatedly absorb attacks of one kind, charging up an elemental spell to create an opening by stunning them.

CRAYK

The Legend Of Zelda: The Phantom Hourglass

■ This fight is an unusual one as the camera changes to a first-person view from Crayk's perspective. You need to hit it in the face with an arrow to stun it, then get in and crack that shell to leave it vulnerable. Once exposed, attacking its face causes it to cover up and reveal its weak spot.

ARGOROK

The Legend Of Zelda: Twilight Princess

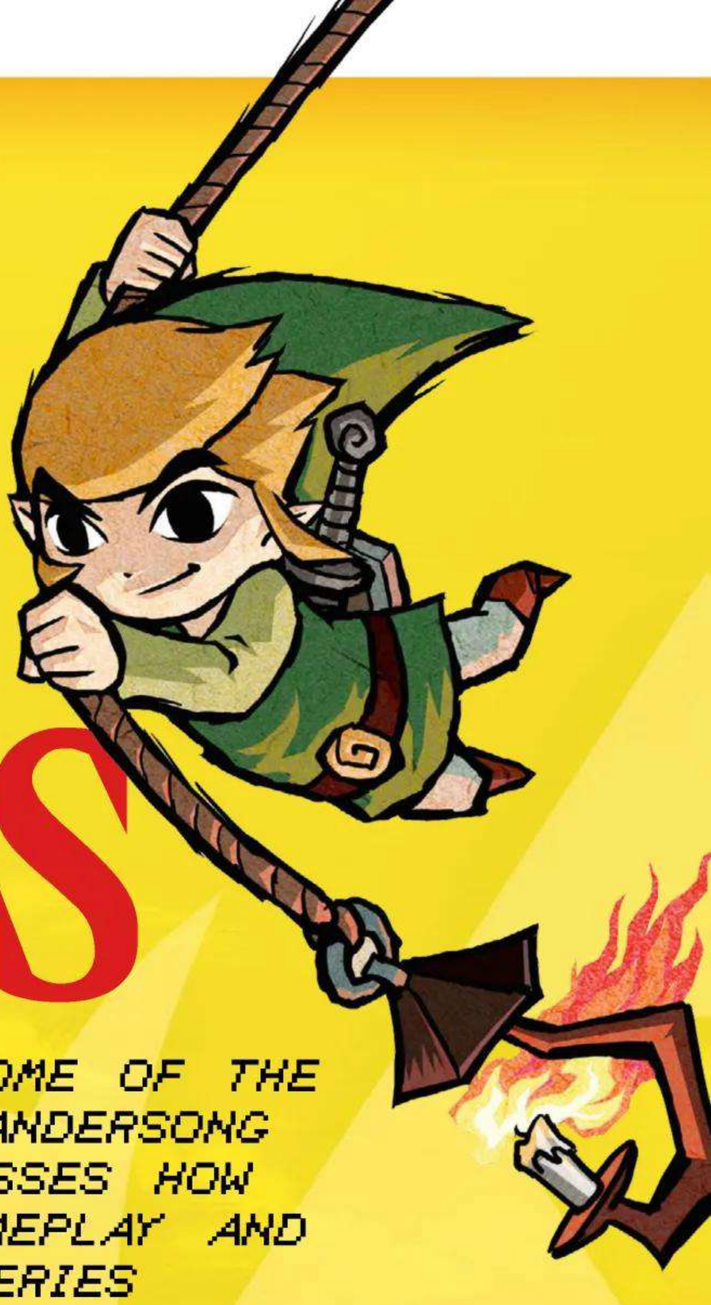
■ A flying foe is always going to be a problem for Link, but by latching onto its tail and equipping the Iron Boots, you can bring it crashing down to the ground. You'll need to head to the sky to take it out for good though, climbing on the fire-breathing beast's back to deliver the fatal blow.

GANON

The Legend Of Zelda: Ocarina Of Time

■ The ultimate enemy requires the ultimate team, and the final encounter of one of the greatest *Zelda* games sees the titular princess joining forces with Link. With the hero having weakened the tyrant, Zelda provides a crucial intervention leading to the end of the fight and total victory.

MAGICAL MELODIES



THE LEGEND OF ZELDA DOESN'T JUST CONTAIN SOME OF THE MOST MEMORABLE MUSIC IN VIDEOGAMES, AS WANDERSONG AND CHICORY DEVELOPER GREG LOBANOV DISCUSSES HOW MUSIC HAS PLAYED A PIVOTAL ROLE IN THE GAMEPLAY AND NARRATIVE IN BELOVED ENTRIES IN THE SERIES

Videogame music doesn't get more iconic than the melodies of *Super Mario Bros* and *The Legend Of Zelda*, both first composed by Nintendo's Koji Kondo for the NES. But *Zelda* arguably has a greater sweeping grandeur that makes its themes all the more special.

"*Zelda* is very much like a mythological story, so everything in it has this sense of being just super old, and so it always makes sense when it shows up in lots of places and it's amazing how well it fits," says *Wandersong* and *Chicory* developer Greg Lobanov. That unique history, with games spanning over three decades where many iconic themes are referred to time and time again and sometimes reinvented is also why he believes its music continues to shine above other games. "Even if a game has a soundtrack that's just as catchy, and just as well orchestrated, it'll never feel the same because *Zelda* has the advantage of that history and the way people experienced it in their childhood." Greg's first experience of the *Zelda* series in his childhood was *Ocarina Of Time*, which even inspired him to take up playing the ocarina. Arguably, music has had a special function in the series prior to this too, such as a fast-travel whistle in the very first game or the quest to collect instruments to play the Wind Fish Song in *Link's Awakening*. However, it was *Ocarina* that brought music perfectly together with both story and gameplay, as you played songs on the titular instrument, sometimes to unlock dungeons, sometimes to change the weather, or time of day, or even someone's mood. It's also a mechanic that was repeated in subsequent games, though Lobanov notes not as successfully.

"The Ocarina had that multipurpose where you could also just play it for fun," Greg adds. "The other ones felt a lot more like a weird minigame tied to rhythm that you do for certain scenes. They were not fun to play by themselves and the controls were a lot jankier and less expressive."

Being creatively expressive does however have its own issues when it comes to puzzle mechanics, as Greg recalls how you can make your own scarecrow song in *Ocarina*. "It was a fun idea that didn't totally work, personally because you had to memorise it," he explains. "So I made a cool song but I forgot it and then I couldn't get the scarecrow to show up, so I went back and made my song just up on the c-stick! You can't really have fun with this because you have to actually do something that has a practical use."

When we leave mechanics aside, music in *Zelda* is its own kind of fast-travelling power that instantly takes fans back to a certain place and time, reinforced by popular recurring themes. "The music always has a really clear sense of mood and space," says Greg. "The way that songs and themes show up in different places has its own way of telling you a story. It works because the melodies, even on your first playthrough, are really memorable." ✱

» [N64] Opening a chest in *Ocarina Of Time* is accompanied by an exciting-sounding tune that is still used in the series today.

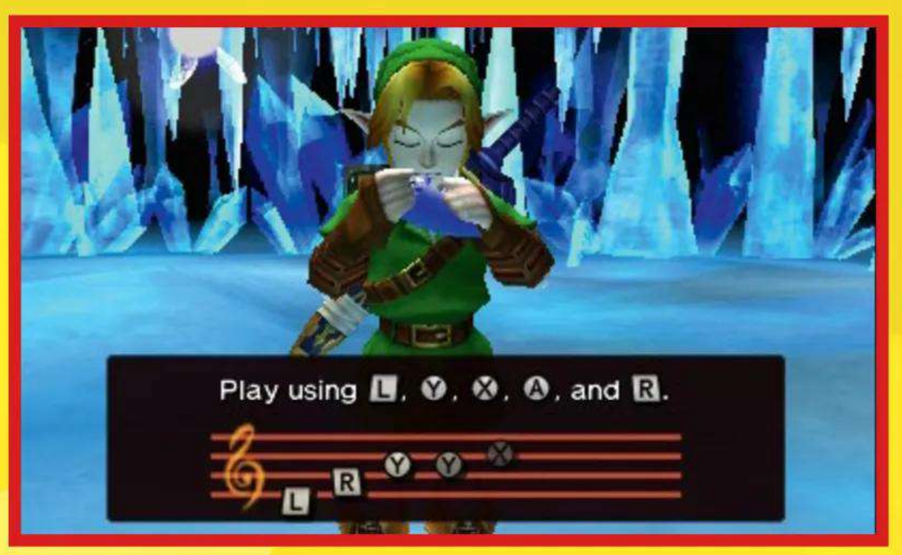
» [Wii U] *Zelda*'s music always comes alive when exploring the overworld and it's particularly fitting in *The Wind Waker*.

Q&A
GREG LOBANOV
HOW ZELDA HAS INSPIRED GREG'S GAMES

What was the inspiration behind your music-themed game *Wandersong*?
The premise was basically like, *Ocarina Of Time* is really cool, but you always have to go into a mode to play it, so what if the game was the ocarina? What happens then? That was totally the starting point [laughs]. You use the right stick to bring up a musical wheel, and then you point in different directions to sing notes, or slide it along to play lots of notes. But you're also a side-scrolling character, so you can run, jump and sing all at the same time! The idea of playing magical songs is really cool, so I thought for a long time that it'd be super cool to see that in more games, which I've also seen recently with *Tchia*.

***Chicory* has a top-down *Zelda*-like adventure structure, so did the score by Lena Raine also take similar inspiration?**
I think there was some inspiration there but it wasn't our main focus because we made decisions that felt right for the game. In some cases, we're trying hard not to look too much like we're just copying *Zelda*. There's a lot of natural overlap in those games because *Chicory* is also a game that's about history, and Lena was really interested in working with instruments and instrumental writing that felt like it was calling back to historical things or had this sort of mythology on a pedestal. There's also a classic temple with secret messages, so we definitely were thinking about it but then we also kind of put our own spin on it too, so I wouldn't say it feels like a *Zelda* soundtrack – it has its own character to it in a lot of ways.

Which *Zelda* game resonates with you the most?
The Wind Waker really hit me because I was almost exactly Link's age, and I also had a little sister who was just born at the time – it just felt like it was made for me! Both Outset Island and Dragon Roost Island themes are really iconic for me as well. They both evoke a really specific place and mood that feel real to me. I feel like that's what *Zelda* does the strongest – just hearing that melody in any context, and I think of those places right away.



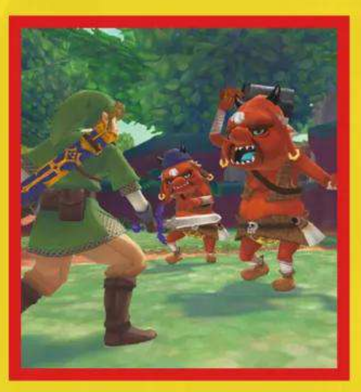
ZELDA'S GREATEST SOUNDTRACKS
MUSIC TO TRANSPORT YOU BACK TO HYRULE

A LINK TO THE PAST
■ With the SNES' audio sampling capabilities, Hyrule came alive with a new grandeur, felt in the title screen's fanfare to the iconic *The Legend Of Zelda* theme in the overworld. This is also where recurring themes like *Zelda's Lullaby*, *Fairy Fountain* and *Kakariko Village* were introduced.

OCARINA OF TIME
■ From the dreamy title theme to the sweeping score of *Hyrule Field*, *Ocarina Of Time*'s score is truly timeless, with some of the catchiest melodies made from just a few notes of the ocarina. It's also where the treasure-chest-opening music originated.

THE WIND WAKER
■ Perhaps the only time that a *Zelda* title theme happens to also be instrumental to the story. That aside, *The Wind Waker* is full of memorable themes from the *Great Sea* to *Dragon Roost Island*, but it's the homely *Outset Island* and *Aryll's Theme* that resonate the most.

SKYWARD SWORD
■ While a divisive *Zelda* game, everyone can agree that the soundtrack is sublime. It's the first in the series to be scored by a symphony orchestra. *Ballad Of The Goddess* is as iconic as the original theme, and regardless of how you feel about Fi, you can't help but be moved by her farewell.



BREATH OF THE WILD
■ As radical a departure as the game itself, opting for a largely ambient piano score, albeit with surprise renditions of familiar themes. There's still a sense of the epic, such as when you activate the Sheikah Towers, while the new *Kakariko Village* theme is outstanding.

GAMES THAT DEFINED THE AMIGA

DECADES AFTER THE DEMISE OF COMMODORE, THE AMIGA STILL HAS A HIGHLY LOYAL AND PASSIONATE FOLLOWING THAT FEW PLATFORMS CAN MATCH. TO CELEBRATE THE SYSTEM, WE'RE TAKING A LOOK BACK AT THE GAMES THAT DEFINED THE HOME COMPUTER IN THE EYES OF ITS AUDIENCE

WORDS BY NICK THORPE AND DARRAN JONES

When a massive leap in technology comes along, it tends to leave an indelible impression on you. You've probably experienced plenty of those moments – for us, our first tentative forays online stand out, as does the moment that DVDs made VHS tapes look like relics. The jump from 8-bit gaming hardware to 16-bit machines was just as huge, and for many of you that first experience would have been with an Amiga computer. Those formative experiences might account for the well-known devotion that Amiga fans feel for their favoured platform.

Whatever you wanted out of games, the Amiga did it better than the computers that came before thanks to its custom chips. Denise enabled the machine to generate colourful and detailed graphics, while Paula's strong support for samples allowed musicians to really flex their muscles. Partnered with a fast Motorola 68000 CPU and vastly more memory than the 8-bit machines, the Amiga expanded the possibilities for original games and allowed for conversions that could look and play more like their arcade counterparts. Of course, all of that raw potential would be for nothing if it weren't for the likes of the Bitmap Brothers, Bullfrog, Team17, Cinemaware and Sensible Software turning out great games.

To celebrate the Amiga, we've picked a selection of games that we feel define the platform. We're only looking at games designed for the original and extended chip sets – AGA games will wait for another time – but that still leaves us with plenty of fantastic games to choose from. So read on to find out what we've chosen, and be sure to let us know if your favourite made the cut.

STUNT CAR RACER

MICROSTYLE • 1989

■ If you want a great Amiga racing game, Geoff Crammond's classic is likely to be the first game out of anyone's mouth. Moving away from the realistic circuits he'd portrayed in *Revs*, Geoff Crammond created outlandish courses featuring steep banked corners and enormous ramps that enabled players to pull off some impressive stunts, with a solid physics simulation underpinning the action.

While *Stunt Car Racer* launched on the 8-bit platforms before it came to the Amiga, it's easy to see that the 16-bit hardware was highly beneficial for the game. The extra colour was nice, but the faster, smoother 3D performance conveyed a greater sensation of speed and enhanced the overall feel of the game.

Geoff Crammond would build on his work here with *Formula One Grand Prix* and its PC sequels, but *Stunt Car Racer* was never overshadowed, largely because of the appeal of its roller-coaster-style courses. It's been a fixture of lists of top Amiga games, and was included in 2022's The A500 Mini plug-and-play console.

PANG OCEAN SOFTWARE • 1990

■ The power of the Amiga allowed players to dream of arcade perfection at home, and while that didn't always come off in practise, this was one of the conversions that delivered on the machine's potential. Ocean managed to recreate the arcade graphics so well that you'll only notice a difference if you put the two versions side by side, and the gameplay is top-notch – *Pang* is one of those arcade games that has stood the test of time admirably, which means it's still a great time on the Amiga too. The music has a bit of the characteristic Amiga sound about it, but that certainly doesn't make it inferior. If you want arcade thrills on your Amiga, *Pang* delivers.

MY AMIGA PICK

"Harlequin will always be a favourite game of mine. A fantastic platformer which is full of great ideas and plenty to explore throughout the various worlds. Any game which features a Barry Leitch soundtrack also gets bonus points. I'll always use Harlequin as an example when people state consoles were better for the platforming genre.

PAUL MONAGHAN
Staff writer, Amiga Addict

AMBERMOON THALION • 1993

■ German developer Thalion was always a team to watch, thanks to its penchant for astonishing technical feats in games like *No Second Prize* and *Lionheart*. This RPG lived up to that heritage, with highly impressive first-person dungeon sections interspersed between overhead exploration scenes, as well as detailed and realistic simulation elements. It's a later game that sometimes goes overlooked, especially as an English translation took a very long time to arrive, but those who love it do so wholeheartedly and it really shows how ambitious Amiga developers could be. ▶

03

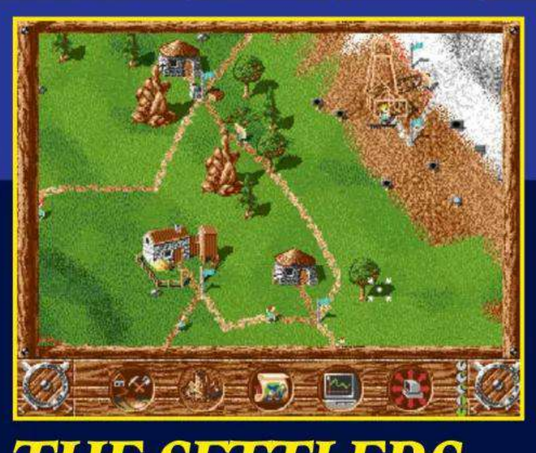
SCORE
0014400

TURRICAN II: THE FINAL FIGHT

FACTOR 5 • 1991

■ This run-and-gun platformer has achieved legendary status over the years, and it's very easy to see why. It's a fantastic-looking game, taking advantage of the Amiga's hardware with large sprites and detailed backgrounds, and the music is as excellent as you'd expect from Chris Huelsbeck – in fact, it's one of the platform's most iconic soundtracks. Then there's the game design, with large, varied environments, plenty of enemies to blast and huge bosses. If that wasn't enough, the platform stages are broken up with some shoot-'em-up action. Factor 5 even managed to cram the entire game onto a single floppy disk, capping off a remarkable bit of software engineering.

Although the Commodore 64 version of the game is the original design, the Amiga version has managed to secure a lasting legacy of its own. In fact, while the 8-bit version isn't readily available to play today, the Amiga version of *Turrican II* is easily found on modern platforms via the *Turrican Anthology Vol 1* collection and is as much fun as ever.



THE SETTLERS

BLUE BYTE • 1993

■ Combining highly detailed economic planning with military management might sound appealing to hardcore strategy gamers, but it probably also sounds rather dry to many of you. If you've played *The Settlers*, you'll know that doesn't have to be the case – Blue Byte managed to cram the game full of character, even with the tiny sprites it uses. *The Settlers* is one of the longest-running series to originate on the Amiga, with a new game in the series, *The Settlers: New Allies*, due for release in 2023.

LOTUS ESPRIT TURBO CHALLENGE

MAGNETIC FIELDS • 1990

■ Even on 16-bit hardware, trying to mimic the sprite scaling of arcade racing games was never an easy task, but Magnetic Fields went above and beyond here. *Lotus Esprit Turbo Challenge* is fast, smooth, and packed with rival racers, which would already be enough to make it a great game, but it also manages to cram in two-player split-screen racing. It's the kind of game that really gave you something to shout about, especially if you managed to pip a friend to the finish line.

FRONTIER: ELITE II

DAVID BRABEN • 1993

■ *Elite* was a defining 8-bit game, and its sequel updates that formula for a new generation. The freedom to tackle the game in any way you choose remains, no matter if you want to make your living in combat or get by as a trader. In fact, anything you choose to do is fine, since there's no end to the game. That's not the only way in which *Frontier* feels limitless, as procedural generation was used to create stars in the far flung reaches of the universe, giving you enormous scope to explore. *Frontier*'s 3D graphics stretched the Amiga, to the point that it really did chug in places, but for many that was a fair trade to make for the entire universe on a couple of floppy disks.

MY AMIGA PICK

"Not strictly a game, but for me I think it was the intro to Frontier… wow. It just blew us all away. And it wasn't just the technical aspects, it was also the cinematography and the music. The complete package, so 'next gen'. And I think it sill holds up as a piece of art today. The actual game however, I can't even remember! I played Elite on the C64 to death, but sadly Frontier just didn't do it for me.

MARTYN CHUDLEY
Cofounder, Bizarre Creations

GAMES THAT DEFINED THE AMIGA

ALIEN BREED

TEAM17 • 1991

■ Team17 was able to achieve huge success in the Amiga market, and it did so largely by creating arcade action games that were better than most of the competition. *Alien Breed* was one of the developer's earliest hits, a top-down shooter that combined the atmosphere and iconography of the *Alien* films with the maze-like levels and overwhelming enemy assaults of *Gauntlet*. It's as difficult as that description might imply, but it's also the kind of game that keeps you coming back for more. *Alien Breed* was the sort of game that made you want an Amiga and it also had real lasting power as a series, spawning plenty of Amiga sequels as well as a successful trilogy of downloadable games.

MY AMIGA PICK

"Pro Tracker and OctaMED for turning the Amiga 500 into the first truly affordable studio in a box. It really helped birth the idea of the bedroom producer. I wouldn't have had the career in music had I not started on Amiga so young.

FEATURECAST

Composer, Final Vendetta

THE SECRET OF MONKEY ISLAND

LUCASFILM GAMES • 1990

■ Though the Amiga version of this classic wasn't the lead version during development, we'd sooner walk the plank than suggest it wasn't a defining Amiga game. Users on Lemon Amiga have rated it the platform's best game ever, and no wonder – it's a truly memorable adventure with a sense of humour that shines through in every aspect of the game, from the insult sword fights to characters like Stan the salesman, the Fettucini brothers and the Lookout. *Monkey Island 2: LeChuck's Revenge* also appeared on the Amiga over a ridiculous 11 floppy disks, and the legacy of the *Monkey Island* series continues to the present day with 2022's *Return To Monkey Island*.

SENSIBLE WORLD OF SOCCER

SENSIBLE SOFTWARE • 1994

■ The beautiful game, turned into a beautiful game. Many players swear by *Sensible World Of Soccer* as the best football game ever made, and some still trek across Europe every year for the Sensible Days tournaments. Here's why the game continues to inspire such devotion.

MAGNIFICENT MANAGEMENT

■ The big thing that set *Sensible World Of Soccer* apart from *Sensible Soccer* was the management aspect of the game. You could sign players and set tactics over a multi-year career, without worrying about the minutiae of dedicated management games.

GENIUS GAMEPLAY

■ *Sensible World Of Soccer* continued to offer the impeccable on-pitch gameplay of *Sensible Soccer*, but refined and updated with improved tackling, heading and more. The overall difficulty of the game is higher too, and each player has more noticeable strengths and weaknesses.

DELIGHTFUL DETAIL

■ When Sensible said 'world', it meant it. The game features hundreds of teams from leagues all over the world, from world-famous clubs like Manchester United and AC Milan to obscure teams like the Ghana Premier League's Hearts Of Oak.

CINEMATIC CREDENTIALS

■ Although the action is primarily viewed from a side-on perspective during gameplay, there are plenty of cutscenes that give you a close look at Lester and the world he finds himself in, making for a unique presentation at the time.

MY AMIGA PICK

"Another World is easily my favourite Amiga game. A masterclass of form and function, a work of art. I remember struggling to understand how a game as visually abstract, long and emotionally gripping as any movie could fit on a single 880K floppy disk. I still struggle with that. It was perfect.

MIKE MIKA

President, Digital Eclipse

ANOTHER WORLD

DELPHINE SOFTWARE • 1991

■ Few Amiga games have endured like *Another World*, which was widely ported back in the Nineties and continues to be made available for just about every platform, over three decades after its debut. Here's why the game never struggles to find a new audience.

PERPLEXING PUZZLES

■ Some of the scenes in *Another World* require real thought, and you're given no clues as to what to do. You can't always push through with violence, either – there are times when your enemies are better off alive than dead.

AMAZING ATMOSPHERE

■ The sparing use of music and the unique graphical style of *Another World* give it a feeling all of its own. That's further enhanced by the lack of standard videogame elements – there's no HUD, no scoring and no levels to beat.

HUNTER ACTIVISION • 1991

■ You can't move for 3D open-world games today, but they were a real rarity during the Amiga years. *Hunter* is a fantastic example of how good they could be despite the technological limitations of the time, as players often had great fun just running around and commandeering vehicles, without ever engaging with the game's central goals. The Amiga was home to plenty of innovative concepts and while *Hunter* never got the commercial success it perhaps deserved, the game is well-recognised today for being ahead of its time.

MY AMIGA PICK

"The standout game for me must be Another World. At the time, adventure games traditionally used bitmapped graphics and spanned many floppy disks but Another World uses basic lines and flat polygons to present a minimalism that looks beautiful and lets the player's imagination run wild. Eric Chahi used clever rotoscoping techniques and use of the Amiga's blitter to ensure it ran fast enough on a stock Amiga. I never really considered videogames as art before Another World – the game is timeless.

DIMITRIS GIANNAKIS

Modern Vintage Gamer on YouTube

SPEEDBALL 2: BRUTAL DELUXE

THE BITMAP BROTHERS • 1991

■ What would the ideal sport of the future look like? Ideally, it would have the fast pace and free movement of football, the targets and bonuses of a pinball table, and violence that makes the crunching tackles of American football look like a nice warm hug. Fortunately, that's not something we have to imagine thanks to this classic, which **Retro Gamer** readers voted as the greatest sports game ever in 2015. As well as offering great gameplay for one or two players, the game's metallic graphics and awesome intro tune exuded the kind of style that was a signature of the Bitmap Brothers, as seen in its many other Amiga hits including *Xenon 2*, *Gods* and *The Chaos Engine*.

SYNDICATE

BULLFROG PRODUCTIONS • 1993

■ Games like *Populous*, *Powermonger* and *Theme Park* ensure that Bullfrog will be familiar to any devotee of Amiga strategy and simulation games, but it's the violent tale of corporations at war that feels like the most relevant game in today's world. *Syndicate* gives you plenty of freedom to carry out your missions and loads of lethal weaponry to cause chaos with, which makes for a wild ride – and thanks to its control system, it's a ride best experienced on a computer rather than a console.

CANNON FODDER

SENSIBLE SOFTWARE • 1993

■ Although it bears the tag line "War has never been so much fun", *Cannon Fodder* isn't particularly pro-war – not that you'd know that from the tabloid controversy that surrounded the release of the game, due to the intended use of a poppy on the box art. Much like *Sensible Soccer*, the sprites here are small, but any humour is contrasted with more sombre elements including the permanent deaths of your soldiers and the graves that accumulate on the hillside. *Cannon Fodder* is more than a statement on the futility of war though, as you'll need sharp reflexes, careful planning and the occasional tank to make it through the 72 levels on offer. War is awful, but *Cannon Fodder* is excellent.

WORMS

TEAM17 • 1995

■ Artillery games had always been good fun, often making for some of the best public-domain games you could get for the Amiga. *Worms* managed to take the concept further and turn it into a commercial hit with some slick presentation and humorous weaponry, from exploding sheep to the eternally amusing baseball bat. It wasn't just a triumph of presentation though, thanks to extra strategic wrinkles like the ability to tunnel into terrain and the need to account for random wind movements.

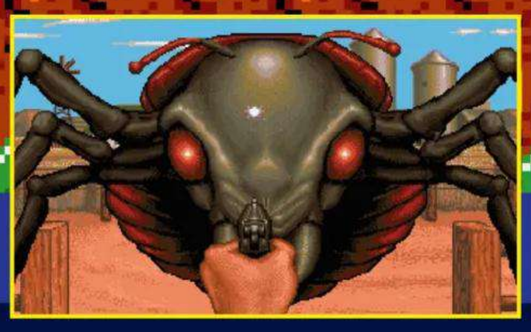
Worms is a multiplayer classic, and turned out to be the last major cross-platform hit to originate on the Amiga. The success of the game helped Team17 to become one of the few noteworthy Amiga developers to survive to the present day, and the studio recognised that by releasing *Worms: The Director's Cut* as its farewell to the platform in 1997. You can find that version on The A500 Mini, or pick up a more recent release like *Worms WMD* on modern platforms. Either way, get some friends round and you'll have a great time.

ZOOL

GREMLIN GRAPHICS • 1992

Few games sum up the Nineties like Gremlin's *Zool*. This ninja of the Nth dimension had everything you'd expect from a game of the era: it was impossibly bright and colourful, it was a platformer, it featured an anthropomorphic character, and it came attached to a branded licence, Chupa Chups. It was also arguably one of the few Amiga games that captured the energy of console heroes like Mario and Sonic, although Capcom's *Strider* was actually one of *Zool*'s main influences.

It felt like everyone was trying to create their own lucrative gaming mascot during the Nineties and Gremlin was no exception. Consoles like the SNES and Mega Drive were becoming extremely popular, but many of the most memorable characters were confined to those systems. While we could have chosen Team17's Superfrog as one of the Amiga's defining characters, he never made the leap to consoles. Zool did and he found a lot of success. Granted his console exploits didn't generate the same high scores like they did on the Amiga, but it proved that Commodore's computer was more than capable of creating memorable characters of its own.



IT CAME FROM THE DESERT

RANDY PLATT, TOM MCWILLIAMS • 1989

Although *Defender Of The Crown* was an early example of the Amiga's capabilities over its 8-bit predecessor, we're choosing to highlight this excellent adventure instead. *It Came From The Desert* is far more ambitious than its mediaeval counterpart, easily building on the many tropes that helped make Cinemaware's games so memorable on the Amiga. It's arguably one of the most film-like adventures on the system as well, effortlessly aping the B-movies of old and delivering likeable characters, engaging minigames and huge number of gigantic ants to kill.

LEMMINGS

PSYGNOSIS • 1991

Psygnosis' loveable critters migrated across to all manner of home systems but many will forever associate them with the Amiga. As a result, *Lemmings* is easily the defining puzzle game on the system and a title that should be in any Amiga owner's collection. The beauty of *Lemmings* comes from its sheer simplicity – guide your lovable rodents to the exit in the most efficient way possible. Like Liam Neeson, your lemmings have a particular set of skills and working out which ones are the most useful will maximise your chances of getting as many of the cute creatures to safety as possible. The cleverly designed levels allow you to tackle stages in all manner of inventive ways, while the delightful renditions of well-known tunes perfectly complement the mop-haired creatures.

XENON 2: MEGABLAST

THE BITMAP BROTHERS • 1989

We were quite tempted to include *Armalyte* or the excellent *Apidya* here, but we feel this exceptional shmup deserves to make the cut instead. It's a wonderfully crafted blaster with a distinctive theme, interesting boss designs, an amazing soundtrack and some truly memorable weapons, including the devastating Super Nashwan Power that unleashes hell for a limited amount of time. It's a truly astounding Amiga shooter that leaves its peers in the dust.

MY AMIGA PICK

"I recall at the time the German developers Factor 5 that were behind the Amiga game R-Type. At Team17 we wanted to see very good Amiga arcade versions with smooth scrolling and good sound, very much inspirations for our own work, as we were sick of seeing 'lazy' ports of ST versions. Factor 5's game showed how Amiga versions should be in our book.

MARTYN BROWN
Cofounder, Team17

PINBALL DREAMS

DIGITAL ILLUSIONS • 1992

■ Nowadays DICE is best-known for its cutting-edge technology and franchises like *Battlefield* and *Mirror's Edge*, but back in the Nineties when it traded under the name Digital Illusions, it was known for its cutting-edge pinball games.

Starting off as members of the demogroup known as The Silents, the four friends that would form Digital Illusions created *Pinball Dreams*, an epic pinball game that not only highlighted their love of pinball, but proved just what was graphically possible on Commodore's machine. Famed for its inventive tables, super-slick scrolling and bright, colourful visuals, *Pinball Dreams* set a new standard for the genre on Commodore's computer and was only really bettered by the team's own efforts, when its two sequels (*Fantasies* and *Illusions*) arrived in later years.

SHADOW OF THE BEAST

REFLECTIONS • 1989

■ Reflections' game is perfect proof that you don't need cutting-edge gameplay mechanics to sell a new system, you just need astonishing-looking visuals and a majestic soundtrack. If you wanted to convince someone of the delights of Commodore's 16-bit system, loading up *Shadow Of The Beast* and shoving an Amiga in your shop window was bound to generate some sales for you. While its gameplay is basic and it has a difficulty that would make most arcade games blush, there's no denying *Beast*'s beautiful aesthetics and its moody atmosphere. While many pass it off as an elaborate demo that feels a little unfair on the iconic game. We'd argue that *Beast* was instrumental in convincing many 8-bit gamers that the Amiga was worth owning. It certainly managed to convince us at the time.

MY AMIGA PICK

"I remember hearing the music for Turrican (composed by Chris Hulsbeck) and being blown away that this machine was capable of making such amazing sounds. It seems simplistic compared to modern game audio, but the concepts of modular/tracker music set me on the path to my own career in videogame audio. That Paula chip changed my life!

BOB BAFFY

Sound designer/composer, Digital Eclipse

BATMAN

OCEAN SOFTWARE • 1989

■ The £399 'Batman Pack' was a tremendous success for Commodore and Ocean Software and was instrumental in bringing Commodore's 16-bit machine to the masses. Here are just a few of the reasons why everyone wanted *Batman* and an Amiga for Christmas.

MOVIE MAGIC

■ Like many of Ocean's licences at the time, *Batman* cleverly based its gameplay around key scenes of the film. This not only meant that levels were often instantly recognisable but could be tailor-made to get the most out of the machine.

SUPERCHARGED LEVELS

■ One of the big draws of the 16-bit versions of *Batman* were its sensational levels that focussed on the Batmobile and Batwing. Where the 8-bit levels were side-on, the 16-bit versions were tremendous into-the-screen extravaganzas that were breathtaking to behold.

DYNAMIC INTRO

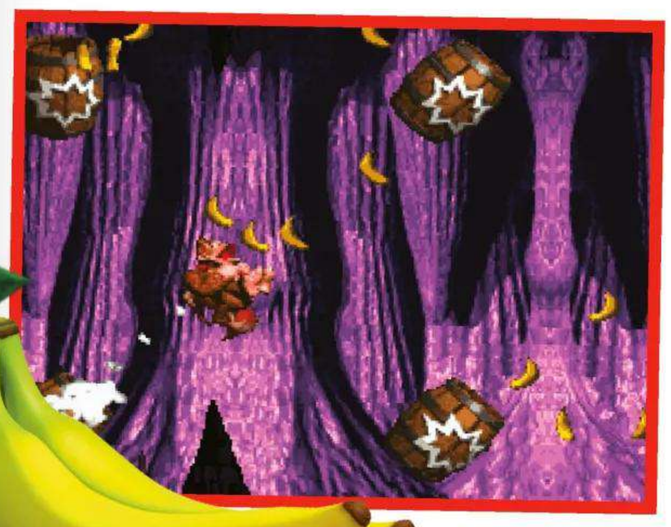
■ Even before *Batman* started you knew you were in for plenty of fun. A moody title screen depicted Batman facing off against the Joker while samples from the movie play over the dramatic score. Great stuff.

THE EVOLUTION OF DONKEY KONG COUNTRY

SO VISUALLY IMPRESSIVE THAT THOSE AT ITS LAUNCH THOUGHT IT WAS AN N64 TITLE, DONKEY KONG COUNTRY BREATHED LIFE BACK INTO THE AGEING SNES. FORMER AND CURRENT RARE AND RETRO STUDIOS DEVELOPERS REVIEW THE CLASSIC PLATFORMER AND THE SERIES IT INSPIRED

WORDS BY RORY MILNE

» [SNES] Like his Eighties coin-op predecessor, DK has a barrel attack in *Donkey Kong Country*.



» [SNES] There are all sorts of barrels in *Donkey Kong Country*, including some that act as cannons!

If there's a common thread that runs through Rare's early output, it's that it could work miracles on less than state-of-the-art hardware. *Knight Lore*, for example, ran on the humble Spectrum, and then the *Wizards And Warriors* series and *Battletoads* redefined what was possible on the NES and Game Boy. But far from mere technical achievements, these titles were also object lessons in compelling platforming.

Donkey Kong Country continued this trend in the mid-Nineties, by coaxing the SNES into displaying 3D-rendered visuals created on advanced SGI workstations. At that point in time, nobody knew how to do this, but Rare artist Kevin Bayliss accepted the challenge. "I was focussed on creating a 3D ape character that looked believable," Kevin ponders, "but it was a little bit daunting, because it just hadn't been done before, and I hadn't really got to grips with the Alias PowerAnimator software yet! Many test models were made to ensure we could create all of the moves that had been set by the designers. But I just wanted to make sure DK could beat his chest, slap the floor and perform the basics – but like a mountain gorilla. So I studied videos of apes intensely for a few weeks, and did my best to mimic some of the things I watched them do."

As well as real-life primates, Rare naturally looked to the Eighties coin-op that it had been tasked with updating to inform the mechanics of its SNES platformer. "We chose barrels as a nod back to the original *Donkey Kong* arcade game," Kevin acknowledges. "He obviously loved playing with them, and so it just made sense to keep this prop as a key element. We also wanted to have a constant throughout the game that was easily recognisable and worked well in a small compact space. Barrels stood out nicely on the backgrounds, and they had many uses – such as methods of transport and 'banana storage'. So it was just a great idea to use them."

Another great idea came from Donkey Kong's creator and owner, but it left the specifics to Kevin, who listened to Rare's designers but then went his own way. "I think we were asked to add a sidekick character by Nintendo, but rather than use Donkey Kong Jr it wanted a new kid on the block," Kevin explains. "There didn't seem much point in having a character that was similar in build to DK with the same moves and characteristics, and the design team wanted to add a much more agile character with a characteristic that would allow him or her to perform unique moves. The suggestion was to have a spider monkey – something with ▶

» [SNES] Whereas DK is slow but strong in *Donkey Kong Country*, Diddy is fast and agile.

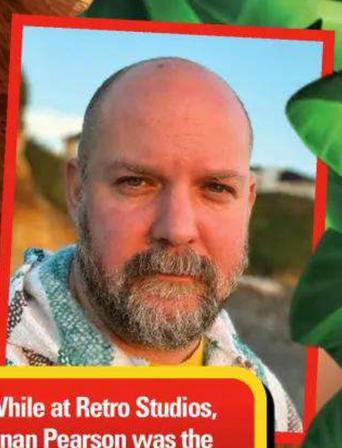
"I JUST WANTED TO MAKE SURE DK COULD BEAT HIS CHEST, SLAP THE FLOOR AND PERFORM THE BASICS – BUT LIKE A MOUNTAIN GORILLA"

KEVIN BAYLISS

» Kevin Bayliss created *Donkey Kong Country*'s concept art – he's online at twitch.tv/Kev_Bayliss_KBTV

» The head programmer on *DKC* and *DKC 2*, Chris Sutherland also provided vocals for the two games.

» After play testing *DKL* and *DKC 2*, Paul Weaver worked as a designer on *Donkey Kong Country 3*.



» While at Retro Studios, Kynan Pearson was the senior designer on *Donkey Kong Country Returns*.

» *DKC Returns* art director Vince Joly went on to be the creative director of *DKC Tropical Freeze*.

STAGES OF EVOLUTION:

DONKEY KONG LAND

PAUL MACHACEK REVISITS THE HANDHELD DONKEY KONG COUNTRY SPIN-OFF

How did the Game Boy's screen affect *DKL*'s boss fights?
We had to make what happened more predictable. Having consistency of movement and regularity of actions allowed fast gameplay to be packed into a small and difficult to discern view, while also helping to manage the difficulty of the experience.

Why did *DKL* have a giant-clam boss?
Admittedly clams don't attack in real life, but we improvised, and had this one spit out an unrealistic abundance of pearls! There was a consistent rhythm to the pearl spitting and clam movement so that you could become familiar with it and learn how to beat it.

How about *DKL*s flying pig, which occasionally doubled as a platform?
It was a nice asset that someone made, and we just randomly put it in to mix things up. There weren't too many places where we needed a moving 'pig-platform', so I guess it was just a little detail and we moved on.

Why was *DKL*'s ostrich buddy able to dispatch foes, unlike in *DKC*?
Trying to avoid a suddenly appearing baddy with DK on an ostrich on a small screen would just have been too difficult. So it was to alleviate that, and give more options to progress without dying. It was also a nice addition to the character, given we had the freedom to move the franchise forward.

» [SNES] Kong tokens are just one of the many types of collectibles in *Donkey Kong Country*.

» Coder Paul Machacek adapted and expanded on aspects of *DKC* for the handheld spin-off *Donkey Kong Land*.

▶ a long tail. I guess Diddy looked nothing like one of those, but he was certainly a monkey."

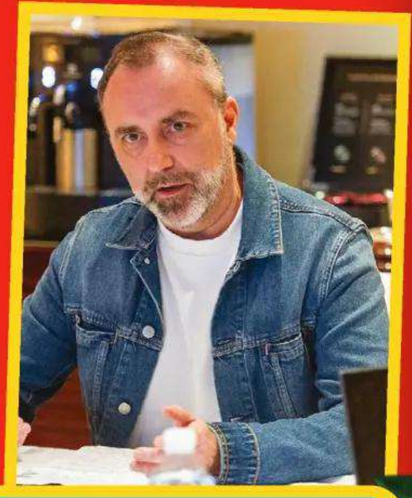
As well as DK and Diddy, Kevin was also tasked with producing concept art for 'animal buddies' for the pair to ride on, and so he set about sketching exotic creatures. "I was given a quick brief from Gregg Mayles," Kevin recalls. "He asked for 'scribbles' – the old term for concept art! – of characters that would behave in certain ways based on the environments that had been planned. So I scribbled down some ideas: a rhino, a tree frog and an ostrich. They were then taken by the artists on the *DKC* team, and they created Rambi, Winky and Expresso. It's amazing how well they turned out given the terrible scribbles I produced, but that was all that was needed to get the idea across."

Not content with giving *Donkey Kong Country* a cast of secondary characters, Rare decided to add sidequests based on collecting various items, such as coins, bananas and balloons. "We always tried to add additional layers, and to give players something else to aim for," Kevin points out. "We wanted a good variety of collectables, so some of the items would unlock or give special powers, or add additional points or kudos. Because we had rendering technology at our fingertips we could produce textures that looked like rubber and gold,

» [SNES] *Donkey Kong Country*'s animal buddies help the Kongs to make progress through certain stages.

STAGES OF EVOLUTION: DONKEY KONG LAND 2

LEE SCHUNEMAN ON DONKEY KONG COUNTRY 2'S PORTABLE COUNTERPART

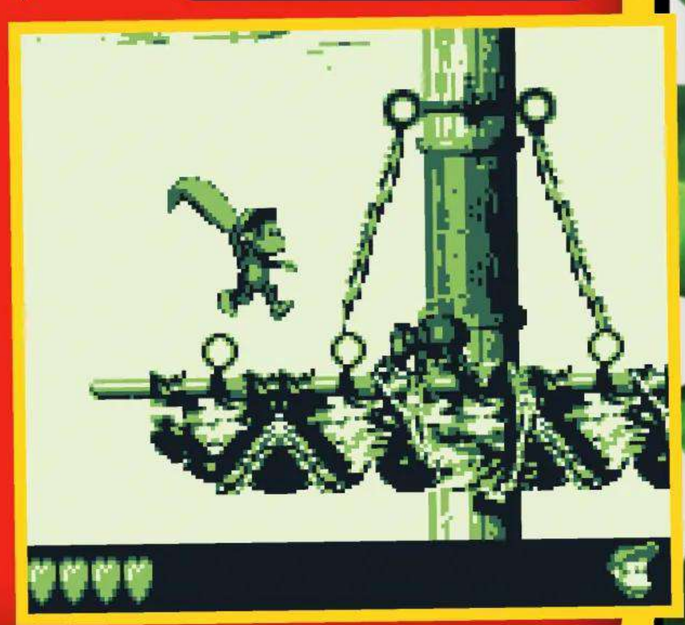


» The portable *DKC 2* variant *Donkey Kong Land 2* was Lee Schuneman's first design project at Rare.

What was your role on *Donkey Kong Land 2*?
It was my first game-design project. A software engineer called Rob Harrison had built this level editor on a Silicon Graphics machine, and an artist, Dean Smith, had taken the *Donkey Kong Country 2* graphics and turned them into greyscale versions. I was given the level creation tool, told to make levels that had the flavour of the SNES version and hurry the fuck up. But in a nice way!

How challenging were the levels to design?
My first attempt was like Mario, and Gregg Mayles was like, "No, no, no. That's not *Donkey Kong Country*." Because it was more about how you *flowed* through the levels. So once he nudged me in the right direction I started designing them more for that seamless flow, so that you could just quickly go through them.

How did things go after that?
I was working maybe not 24/7, but remember I had bugger all else to do – I was living in the middle of nowhere. I had a deadline to get all of the levels done, and six months later it came out, and it sold a million copies. I remember being back in my hometown, and being able to tell a bunch of my old school buddies, "Hey! Look what I've done. I've made this game!"



"I LIKED THE SPIDER, BECAUSE THERE WAS THE IDEA THAT YOU COULD CUSTOMISE YOUR ROUTE BY CHOOSING WHERE YOU WERE GOING TO PROGRESS TO"
CHRIS SUTHERLAND

and we could also produce all kinds of special effects. So making a balloon that looked realistic and popped out from the environment was easy."

Thanks to its stunning rendered visuals, shifting copies of *Donkey Kong Country* was similarly simple – in fact, it set a record for being the fastest-selling videogame. Its sequel kept Diddy and swapped DK for Dixie, a ponytailed relative whose helicopter-like hovering made life easier as long as she was in play, as coder Chris Sutherland notes. "It was a cool feature that I'm glad was in there," Chris says. "But there was a lot of extra QA in order to make sure that every permutation was possible, because we didn't just have to do QA for the different ways you could be left in a level with one particular character when you were a *single* player, you also had multiplayer as well. I suppose it added a bit of strategy in terms of thinking which character should I play *here*? Because if you got hit then it would be nigh on impossible to complete the next section."

Responsible for coding the play mechanics for *Donkey Kong Country 2: Diddy's Kong Quest*, but not implementing them, Chris often found himself trying to make the impossible requests of the designers on his team possible. "Often the designers would come up with fiendish combinations of things that the coders hadn't thought of in the first place," Chris sighs. "Like the barrels. We had defined those individually, but then the designers would combine them in all sorts of weird and convoluted ways. Or in the roller-coaster stages you would have these fake-out sections, where you thought you were going to go *here*, but no, you went somewhere else!"

Given how popular the animal friends had been in *Donkey Kong Country*, its follow-up naturally revisited the concept, and one new buddy could spin their own platforms. "I liked the spider, because there was the idea that you could customise your route by choosing where you were going to progress to," Chris reflects. "You could also get to secret areas by going up high, and places that other characters couldn't get to. But there was a lot of balancing, because we wanted to make it so that it was still challenging. That was why there was a limit on the frequency that you could spit platforms out, and also the fact that they faded away after a while, meaning you had to jump before they dissolved."

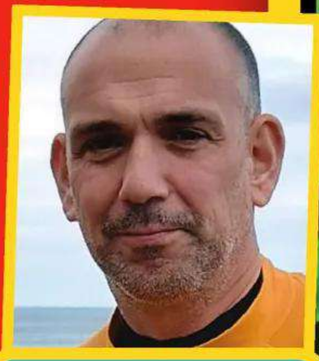
If anyone had thought *Donkey Kong Country* might have been a novelty, then this idea was soon dispelled by its sequel's impressive sales. Rare soon rolled onto a third title, starring Dixie but not Diddy, and introducing toddler Kiddy, ▶

STAGES OF EVOLUTION:
DONKEY KONG LAND III

GARY RICHARDS DISCUSSES THE ON-THE-GO VARIANT OF DONKEY KONG COUNTRY 3

How did you approach the design of *Donkey Kong Land III*?

The same people were playing our games on the Game Boy and the SNES, so there was a management decision to give us free rein to come up with fresh takes on the ideas in *Donkey Kong Country 3*, which was my favourite in the trilogy. So it was just a case of working out how we could create an experience that people would find familiar but different.



» Having helped out with *DKL 2*'s level designs, Gary Richards was asked to design *Donkey Kong Land 3*.

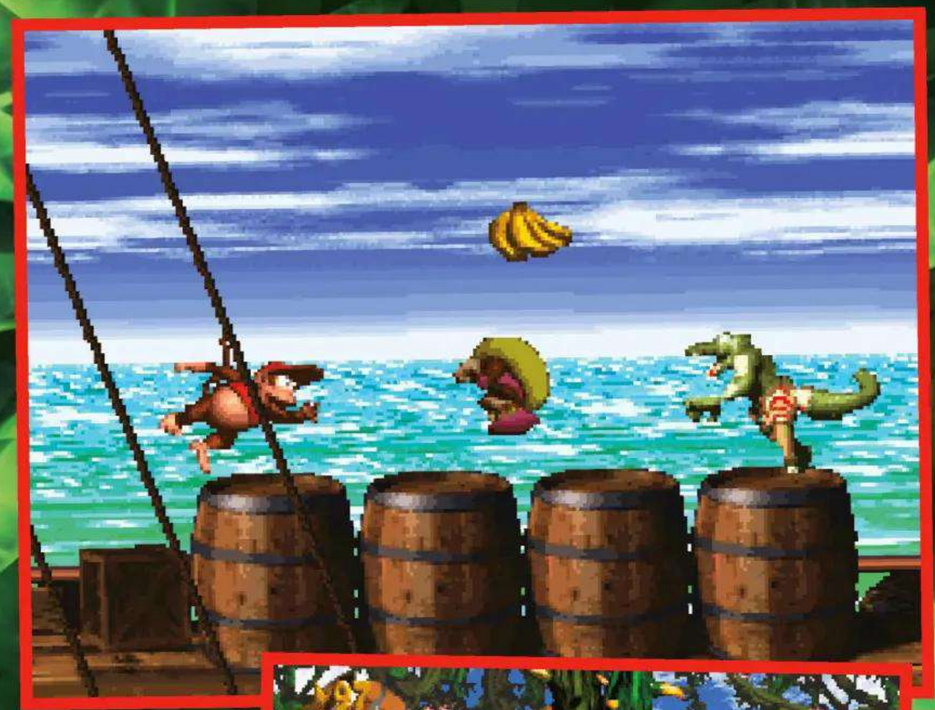
How did its unique Ellie The Elephant level come about?

Since you weren't refilling its trunk all the time then we made it into a stage where you were going along taking out the enemies with a 'water gun'. It was nice to get a mix of different game styles in there. I'd never had the chance of doing a shoot-'em-up, but I could kind of sneak one in at that point.

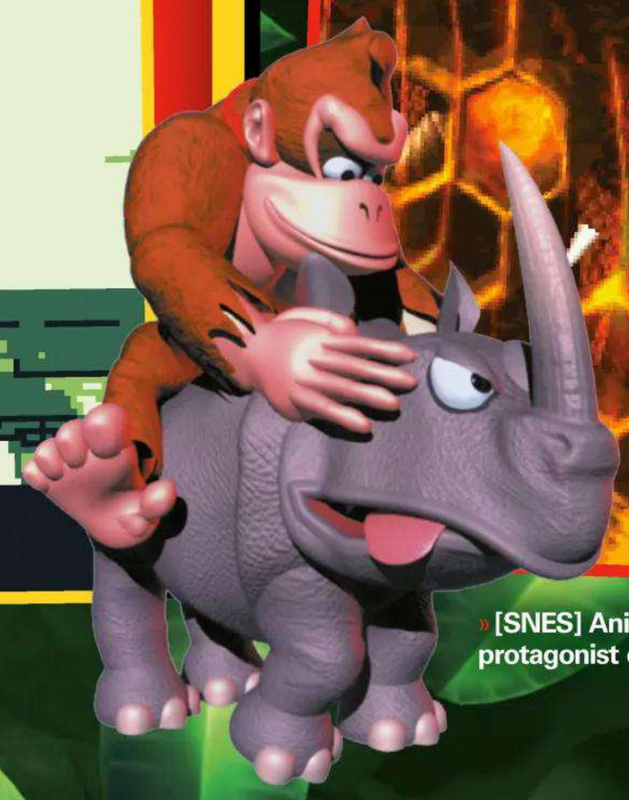
What was designing the game's greyscale levels like?

It was a big compromise to make something on the Game Boy that you could see and play properly despite the screen. We moved on to the Virtual Boy after that, which was much worse! We knew it wasn't going to sell as soon as we saw it. We did look at getting *Donkey Kong Country* on to it at one point, but nothing ever came out.

» [SNES] Dixie Kong can use her ponytail much like a helicopter rotor in *Donkey Kong Country 2*.



» [SNES] The bramble-covered stages in *Donkey Kong Country 2* are renowned for their difficulty.



» [SNES] Animal buddy Squawks The Parrot is the protagonist of a *Donkey Kong Country 2* boss-fight.

who thanks to designer Paul Weaver could bounce across water. "We could obviously have gone with DK or Diddy," Paul concedes, "but we wanted to extend the family, and also be very thoughtful about what we could add to the gameplay. When we started scratching off mechanics in the previous two games it became a real challenge to keep things fresh and interesting. But we had a range of age going all the way up to Cranky Kong, so we thought we would go in the other direction. Then since Kiddy was a bouncing baby boy we took that literally!"

Besides its amusing new player character, *Donkey Kong Country 3: Dixie Kong's Double Trouble!* also toyed with other genres and 3D gameplay, although the latter was restricted to the follow-up's bonus levels. "The map screens added an over-world concept to things, so rather than just following a line we wanted to make it like a treasure map that you explored," Paul recollects. "That was about trying to infuse really light RPG elements into the game – I was a huge *Zelda* fan, and I think you end up embedding other games into your own game designs. With the 3D snowman and the snowball fight, and the circus game, well platformers were inherently 2D, but we were just on the cusp of 3D gaming. So *DKC 3* was still a 2D game, but starting to introduce depth into it was something we wanted to play with."

Of course, the third *Donkey Kong Country* title also had its own helpful jungle critters, most notably an elephant with a useful trunk and an inconvenient aversion to rodents. "We had multiple mechanics with the elephant," Paul grins. "We had the aspect of being able to suck objects towards you, and then throw them. Then you could suck up water and use that. The next iteration was where we had mice under spotlights, and the elephant was afraid of them and ran away. We had added that as a little bit of personality, but it then became a mechanic. So we combined all of the elements together, where you avoided the spotlights or knocked the mice off from a distance."

» [SNES] Although often annoying, *Donkey Kong Country 2*'s strong winds can blow you across wide gaps.

» [SNES] In a callback to *DKC*, Glimmer The Anglerfish lights the Kongs' way in *Donkey Kong Country 2*.

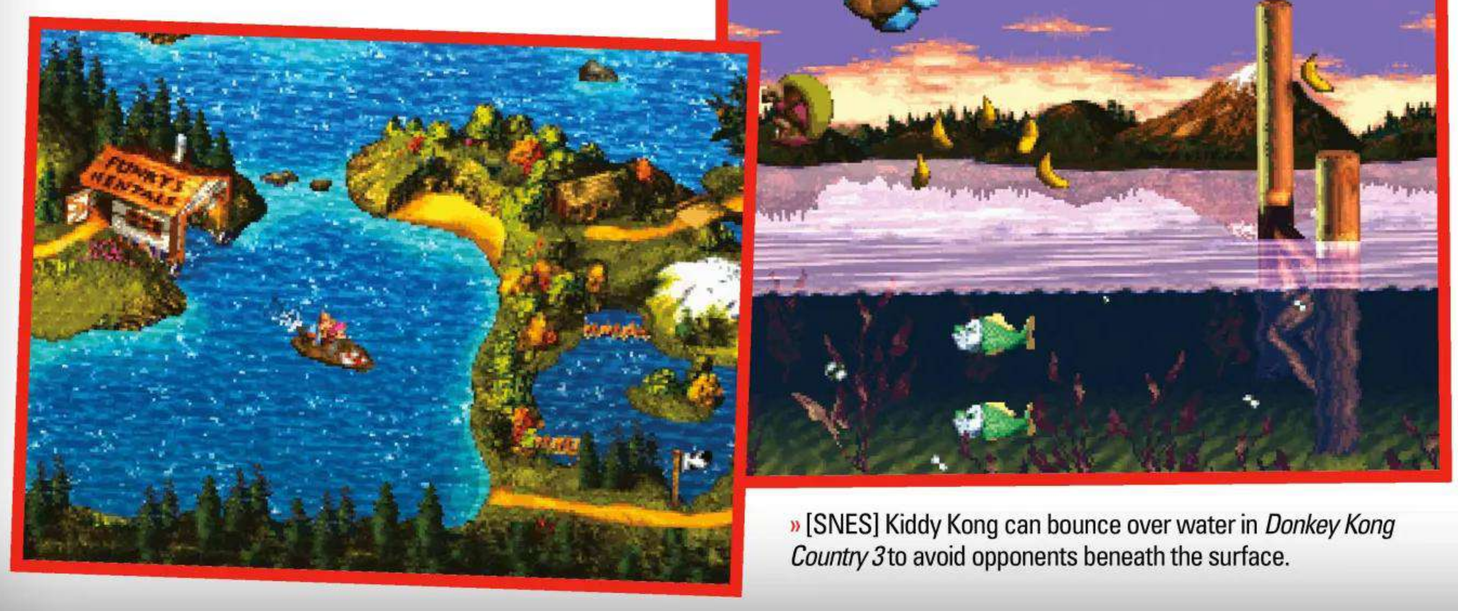
"WE HAD A RANGE OF AGE GOING ALL THE WAY UP TO CRANKY KONG, SO WE THOUGHT WE WOULD GO IN THE OTHER DIRECTION"
PAUL WEAVER

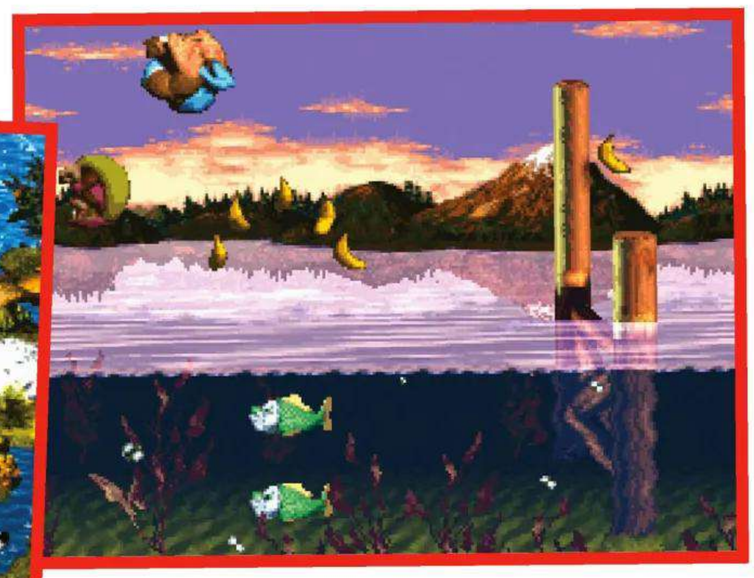
Yet more anthropomorphic characters followed, although non-player ones, in the form of a family of shopkeeper bears who facilitated the introduction of trading and hiring to the series. "We had to come up with their quirks, and I only had four lines of dialogue for each one!" Paul exclaims. "But they added a nice touch. You know, you had the Donkey Kong coins and the silver coins, so there was almost coin fatigue creeping in. So beating a boss and getting a random object, and then remembering that a bear on an earlier level had been talking about it. That was useful for bringing the game's elements together, and it was a fulfilling sub-quest to round out the story as well."

Although not released until after the N64's Japanese launch, *Donkey Kong Country 3* still sold remarkably well and concluded the trilogy in style. That wasn't the end of Rare's *DK* adventures, however, as it went on to create two additional games that took the popular primate and the cast of characters from the *DKC* series into the third dimension.

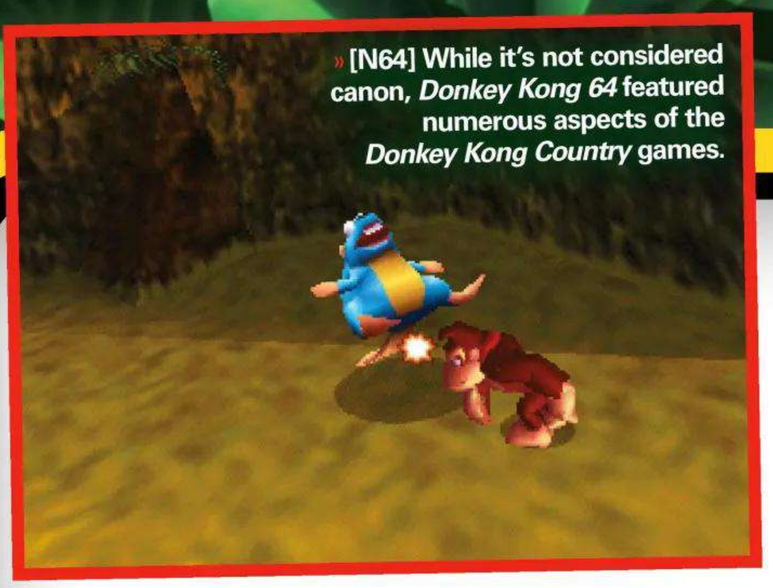
Diddy Kong Racing was a highly entertaining kart racer that let players race in karts, planes and hovercrafts. While its multiplayer wasn't quite as slick and polished as *Mario Kart 64*, it bettered that game from a single-player perspective thanks to its incredible Adventure mode, which was not only brilliantly structured but featured entertaining boss battles where you had to out-race them.

Rare's final *DK* game on home consoles was *Donkey Kong 64*, which made its debut on the Nintendo 64 in 1999. Initially you simply played as DK, but as you explored the huge island that the game was set in you encountered additional members of his tribe, including Diddy Kong. Each new primate had distinct abilities that you needed to use extensively if you wanted to defeat King K Rool and his Kremling minions. Chunky Kong could lift rocks, Tiny Kong had the ability to shrink and enter tiny holes, Diddy Kong could fly thanks to a handy jetpack and Lanky Kong could float. While critically acclaimed





» [SNES] Kiddy Kong can bounce over water in *Donkey Kong Country 3* to avoid opponents beneath the surface.



» [N64] While it's not considered canon, *Donkey Kong 64* featured numerous aspects of the *Donkey Kong Country* games.

> "THE CLINGING SYSTEM WAS A BIG ADDITION. IT WAS ONE OF THE THINGS WE WANTED TO DO TO EXPAND MOVEMENT FROM JUST THE GROUND PLANE"
> **KYNAN PEARSON**

at the time, it drew some criticism for being quite the collect-a-thon, and for its overall length and occasionally wonky camera angles. That didn't put off gamers, however, and it proved to be another big seller for Rare, shifting over 2.4 million sales by 2004.

Despite these successes, however, the *Donkey Kong Country* series proper didn't continue until 2010, with Retro Studios rather than Rare at the helm. *Donkey Kong Country Returns* for the Wii reinstated DK and Diddy as the player characters, although you couldn't swap between them, as the game's senior designer Kynan Pearson notes. "We knew that the DK/Diddy switch was an important feature in Rare's original, but we wanted to take a 'combined character' route," Kynan considers. "When we had made that decision we were working closely with Risa-san and Tanabe-san at Nintendo Software Planning & Development – SPD. Basically, changing the health system and going with combining the two characters was a new system. But it also worked with the hit points, and allowed for an escalation of power, where DK and Diddy could do a prolonged, infinite roll when they were together."

Solo players could also make use of Diddy's jetpack to pull-off double-jumps – as whenever he was in-play in single-player mode he would cling to DK's back, and a second player playing the monkey had access to his peanut popgun. "We had seen everything that had been done with Diddy in every game series, and there were a few things that we felt like adding – like the jetpack and the popgun," Kynan reviews. "There were obviously benefits with the stalled descent you got from the jetpack, and then the popgun was there to give a second player something fun to do that would also be of benefit. There was also an aspect of wanting to allow a second player with no experience of the game to hop on DK's back and not worry about the difficult platforming."

Adding to the challenge of the platforming in the latest *DKC* title was a new and ingenious mechanic, which allowed DK and Diddy to climb vertical and overhead areas by grabbing handfuls of the grass growing on them, and then pulling themselves upwards or across. "The clinging system was a big addition," Kynan remembers. "It was one of the things we wanted to do to expand movement from just the ground plane, because it gave opportunities for wall and ceiling gameplay. I remember it was one of those things that we documented heavily and expanded on, just to build the screen with interaction no matter which direction you were headed. We wanted to give just as much to do on the top-half of the screen, with ceiling gameplay and where you were on walls, and clinging afforded that."

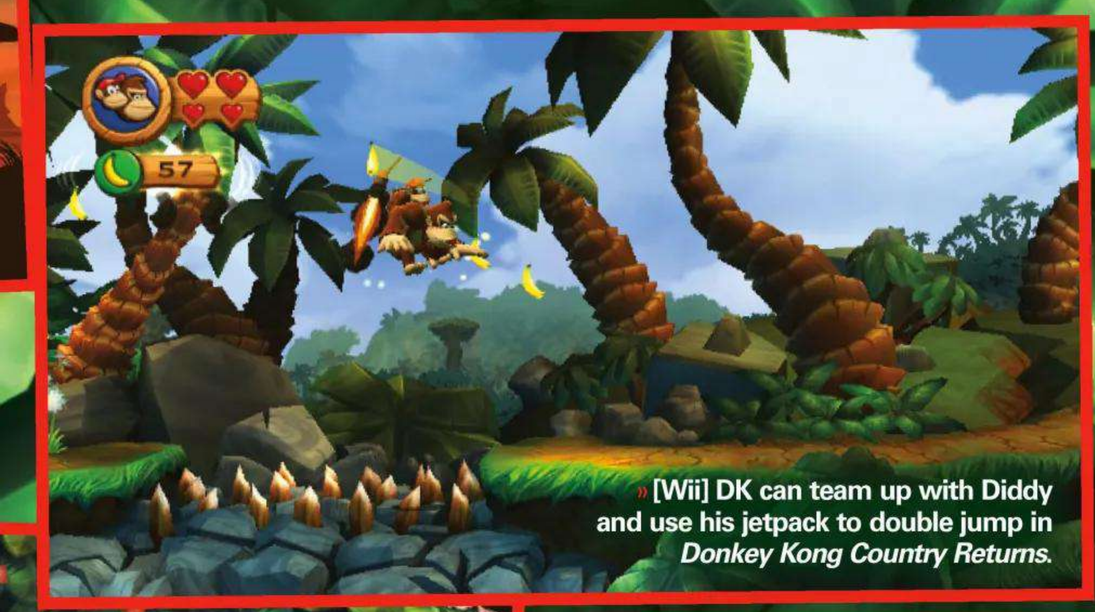
Another of the game's mechanisms stemmed from technical considerations rather than gameplay related ones, in that rather than stopping the Kongs at the screen edges if they strayed too far apart in two-player mode, they instead got teleported back to their partner. "If we had stopped the camera movement we would have created significantly more frustration in terms of making precision jumps that required momentum, and on some levels that supported faster play," Kynan assesses. "Players could have also prevented forward momentum and movement by just hanging back, and that would have created opportunities where you were fighting with your partner rather than working together."

One further differentiation between *Returns* and the original *Donkey Kong Country* came in the form of levels played at dusk, where everything was depicted in silhouette form. "It was really about working with silhouettes in terms of clarity of experience by separating foreground and background," Kynan explains. "The idea was that we could use parallax as a way to allow you to immediately differentiate things that were going to flow past from things you could interact with. This created a striking visual quality, and we could sometimes use that for puzzles. So for instance, we had statues that would line-up to become the silhouette of a banana on a pillar, where all of the layers of parallax came together."

Released to glowing reviews, first on the Wii then the 3DS three years later, the positive response to *Donkey Kong Country Returns* led to a sequel – subtitled *Tropical Freeze*. Its creative director Vince Joly recalls a desire to make its icy foes relatable. "Here was the high-level thinking behind the Snowmads," Vince begins. "After using the more abstract design of the Tikis in *Donkey Kong Country*

» [Wii] Although near-dark, the silhouette stages in *Donkey Kong Country Returns* present clear objectives.

» [Wii] Unlike *DKC*, DK has the ability to cling to grassy surfaces in *Donkey Kong Country Returns*.



» [Wii] DK can team up with Diddy and use his jetpack to double jump in *Donkey Kong Country Returns*.

» [Wii] Like earlier Kong titles, Diddy's weapon of choice in *Donkey Kong Country Returns* is a peanut popgun.

STAGES OF EVOLUTION: COMPOSING DONKEY KONG COUNTRY

DAVID WISE ON CREATING SOUNDTRACKS FOR THE SERIES

» The musician on *DKC* and *DKC 2*, David Wise also composed the soundtrack for *DKC Tropical Freeze*.

Why did the *Donkey Kong Country* soundtracks tend to alternate between upbeat and atmospheric?

The music was driven by what we wanted the player to do, and if we wanted to panic them! So there was always a lot of 'psycho-acoustic' stuff going in, and that was why we chose Stickerbush Symphony for Bramble Blast. Because it was a really hard level, and having the juxtaposition of *smooth* music created a different feeling than if we had put really *hard* music in.

What sort of direction did Tim Stamper give you on the *DKC* games?

It was never Tim standing over your shoulder. He would take you away and explain exactly what he wanted, and you would come back with something that might work. Invariably there could then be several iterations of that. The first thing you brought him might not work, so you would go away until you found something that did.

How did the Kongs 'singing' at the start of *DKC* come about?

We used a vocal pad, and we got Mark Betteridge, who was head of coding – because he was great at monkey sounds! We could only have a small selection of those, but I wanted the Kongs to sing, so I took his sample and just *pitched* it, and played around with it. That was how we got the Kongs singing at the beginning.

STAGES OF EVOLUTION:

COMPARING THE KONGS

HOW DONKEY KONG'S SPECIAL ABILITIES COMPARE TO HIS PRIMATE PARTNERS'

DONKEY KONG

In the SNES original, DK can dispatch foes by jumping on them, rolling into them, throwing barrels at them and slapping the ground in front of them! In *DKC Returns*, he can also climb grass-covered walls and ceilings, and in *Tropical Freeze* he can pull handles to activate mechanics.

DIDDY KONG

Like DK, Diddy can throw barrels at opponents or jump on them in *Donkey Kong Country* – although he can jump higher and is faster, and he has a cartwheel attack. His abilities are identical in *DKC 2*, but in *DKC Returns* and *Tropical Freeze* he has a peanut popgun and a barrel jetpack.

DIXIE KONG

In *DKC 2* and *3*, Dixie's most useful talent is her ability to spin her ponytail-like helicopter blades while jumping, which allows her to travel safely over great distances. In *Tropical Freeze*, she has a bubble-gum gun, and can use her ponytail as a propeller when she's under water.

KIDDY KONG

Dixie's co-star in *DKC 3*, Kiddy's weighty build makes him ideal for her to throw him through cracked ceilings into hidden areas! He can also smash down doors by rolling into them, and he can bounce along stretches of water by combining a roll with a jump just as he hits the surface.

CRANKY KONG

First playable in the *DKC* series in *Tropical Freeze*, the original Donkey Kong uses his cane as a pogo stick, which allows him to jump much higher than the other Kongs in the game and take out foes that they can't tackle. He can also stun opponents by firing sets of dentures at them!

» [Wii U] *Tropical Freeze*'s Snowmad opponents are Scandinavian or arctic in origin, with a little artistic licence.

» [Wii U] Cranky Kong can pull-off huge jumps in *Tropical Freeze* by using his cane as a pogo stick.

Returns, we felt that there was more that we could do to have the player relate to the Kongs' foes. We wanted a set of baddies that would thematically and physically match up well against DK as a large primate. So polar bears, sea lions and walruses all seemed like good mammalian match-ups – and that was the beginning of the story of these nomadic snow creatures invading DK's island."

In addition to its wintery opponents, *Tropical Freeze* was also given not one but three secondary player characters: Diddy, Dixie and for the first time Cranky Kong. "It was decided among leadership that we should expand on DK's universe, and that by re-introducing these nostalgic characters with new gameplay mechanics we could keep the *DKC* franchise fresh and exciting," Vince enthuses. "I believe the idea for Cranky's abilities came from brainstorming meetings that the designers had, where they thought about how they could use his cane in interesting ways to give him a new ability. A 'pogo stick' like action seemed to be a good fit, as it provided the player with a choice of which Kong they should use when, for example, faced with sections of spiked pits."

Tropical Freeze's titular hero DK also gained fun new abilities, which included picking-up

» [Wii U] In *Tropical Freeze*, DK can trigger interactive features by pulling handles out of the ground.

» [Wii U] DK can use fallen foes as a ranged weapon in *Tropical Freeze*, like Kiddy in *DKC 3*.

stunned foes and using them as projectiles – much like Kiddy had been able to do in *Donkey Kong Country 3*. "The more we could do to make the baddies feel like tangible living creatures the better, and being able to pick them up and throw them helped that feeling," Vince reasons. "Adding this mechanic immediately opened the door for more charming characters, along with the new and interesting gameplay opportunities of timing throws at targets. Because this action was designed to be done while in motion as well as while DK was stationary it really helped to maintain the flow of the player's progression."

"WE WANTED A SET OF BADDIES THAT WOULD THEMATICALLY AND PHYSICALLY MATCH UP WELL AGAINST DK AS A LARGE PRIMATE"
VINCE JOLY

Another of DK's freshly acquired talents involved pulling handles out of the ground and other flat surfaces, which would reveal pick-ups or aid his progress in less obvious ways such as producing platforms, uncovering paths or draining tanks of fruit juice! "It allowed for a further sense of exploration by seeking out these small triggers," Vince observes. "It also gave the player a new mechanic to learn that mixed in with the Kongs' other abilities. The less obvious implementations added some nice variety to the player's progression, but the satisfaction of this cause and effect had its limits. The Kongs' other actions like the Ground Pound and Barrel Cannon just tended to feel like more satisfying ways to unlock new platforms or areas."

One area where *Tropical Freeze* mirrored its predecessor rather than differentiating itself was with its choice of animal buddies, although other options were explored. "We were thinking that bringing back the familiarity that players experienced in *Donkey Kong Country Returns* would be a good way for us to further strengthen their love for these characters," Vince contemplates. "We felt this was the right choice over adding different buddies in their stead, and we believed the introduction of the other Kongs filled the need for expanding the character line-up and adding new player mechanics. However, we would have *loved* to have introduced some new animal buddies. Like Enguarde, for instance, who did come close to being added."

After reviewing well when it came out for the Wii U in 2014, an enhanced version of *Donkey Kong Country Tropical Freeze* arrived on the Switch in 2018, and this brought the series to a close – at least at the time of writing. On the 1994 SNES original that started the series off, Kevin Bayliss praises what was achieved on limited hardware, and the great feeling that you still get from playing the game. "It astounds me that it ended up looking so good with just a small amount of colours and fairly low resolution," Kevin beams. "I think it's still a great game to play, because it's packed with humour, and it's just so charming and atmospheric. It's something I'm really proud to have been involved in, and I can't believe that I was one of the people who got the whole thing moving with the original models I created. When I look back at it now, it's bananas!" ✱

ULTIMATE GUIDE

SHINOBI III

Return of the Ninja Master

AS THE STAR OF THE SHINOBI SERIES, JOE MUSASHI HAD BEEN ONE OF SEGA'S MOST DEPENDABLE CHARACTERS FOR YEARS, BUT HIS LAST MEGA DRIVE OUTING TOOK HIM TO NEW HEIGHTS. WE LOOK BACK AT ONE OF THE GREATEST NINJA-THEMED GAMES EVER

WORDS BY NICK THORPE

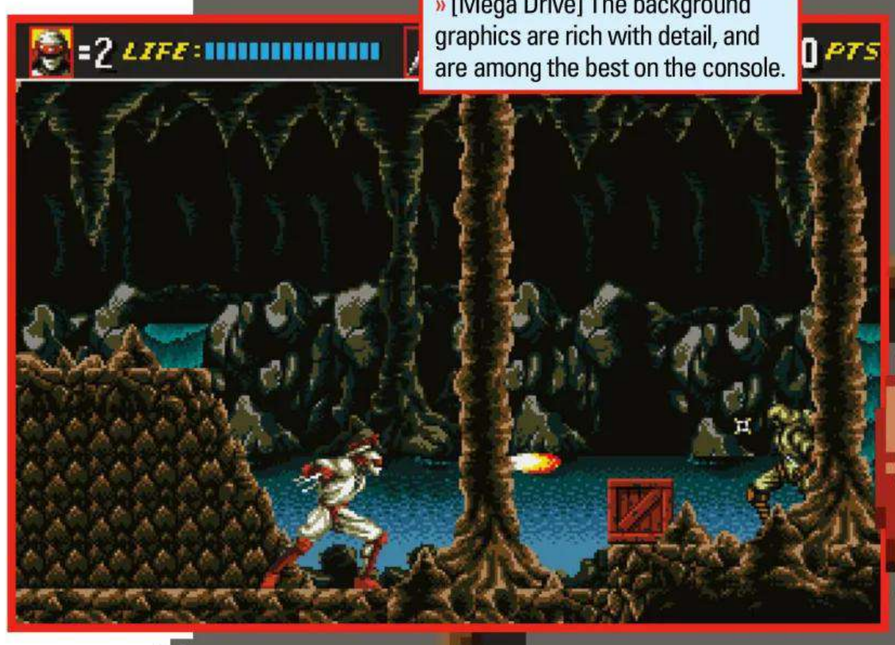
If you were in the market for a Mega Drive during the early days of the console's life, chances are that one of the games that convinced you to take a look was *The Revenge Of Shinobi*. The slick sequel to the hit arcade game evolved the action with new stages, moves and magic, and the soundtrack by Yuzo Koshiro is still revered to this day. Critics loved it, it was a sales hit and it became such a common inclusion on the *Mega Games* compilation cartridges that we'd be surprised if any Mega Drive owner had managed to miss it. There was no question that Sega would put another sequel into production.

What is interesting is that this didn't happen right away. The core team of *The Revenge Of Shinobi*, programmers Keiichi Yamamoto and Matsuhide Mizoguchi and designers Taro Shizuoka and Atsushi Seimiya, went on to develop the excellent Mega Drive conversion of *Strider*. Some staff went on to work on games like *ESWAT* and *QuackShot*, while planner and co-ordinator Noriyoshi Ohba worked on Streets Of Rage, reuniting with Koshiro and Seimiya. When *Shinobi III* finally entered development, it was taken on by a wholly new subsidiary of Sega called Megasoft, with only Ohba remaining as a supervisor to the project.

Shinobi III: Return Of The Ninja Master is a direct sequel to *The Revenge Of Shinobi*, and indeed its Japanese name is *The Super Shinobi II*. The nefarious Neo Zeed, despite Joe Musashi's victory in the previous game, has managed to survive in that uniquely irritating way that organised crime rings so often manage to. That's because the true leader, the Shadow Master, had been operating in the background. Depending on whether you believe the international or Japanese manuals, the organisation is now only slightly weakened, or even more powerful than before. Worse yet, the Shadow Master has supposedly been cloned from Joe's Oboro-clan bloodline, although that particular plot point only appears on the back of the American box. Anyway, you know what that means – as a one-man army, Joe has to go kick enough Neo Zeed bottoms to make them retreat into the shadows once more.

Much like its predecessor, *Shinobi III* primarily consists of linear stages that offer platforming challenges as well as a variety of baddies to beat up, with the occasional boss fight thrown in for good measure. You'll find a great amount of variety here, as Joe ventures from the opening forest to deadly military installations and sinister biological-research facilities. There had been a number of gameplay elements swapped in and out of the *Shinobi* series up to this point, from the original game's hostage rescue theme to the inclusion of the faithful dog Yamato in *Shadow Dancer*. For *Shinobi III*, the most notable addition was forced scrolling levels in which Joe Musashi rode a horse or a motorised surfboard, with

» [Mega Drive] The opening forest area has a brilliant atmosphere, with gently swaying leaves and hidden enemies.

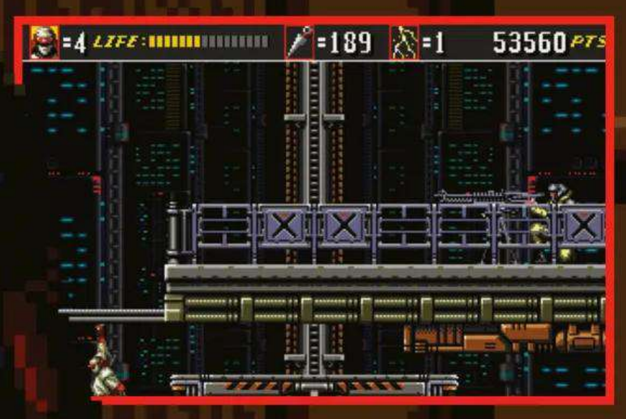


» [Mega Drive] The background graphics are rich with detail, and are among the best on the console.

» [Mega Drive] A couple of mid-bosses are fought during the vehicular stages, such as this tricky ninja.

» [Mega Drive] During the auto-scrolling stages, warning signs ensure fair play when hazards are inbound.

» [Mega Drive] The slime enemies here will take a few hits from your regular shurikens.



» [Mega Drive] Stay on the elevator and you'll be crushed, so it's time to hang tough.

» [Mega Drive] The final *Shinobi III* had fewer industrial-themed stages compared to the unreleased version.

MAGNIFICENT MOVES

SOMERSAULT

■ Press jump again at the height of a regular jump, and Joe will curl up and gain extra height. You can also press your attack button to send out a deadly spray of shurikens.

SPRINTING SLASH

■ Double tap left or right to begin running in that direction. The extra speed is handy, but if you press the attack button, you'll gain a brief bit of invincibility as you swing your sword.

DIVE KICK

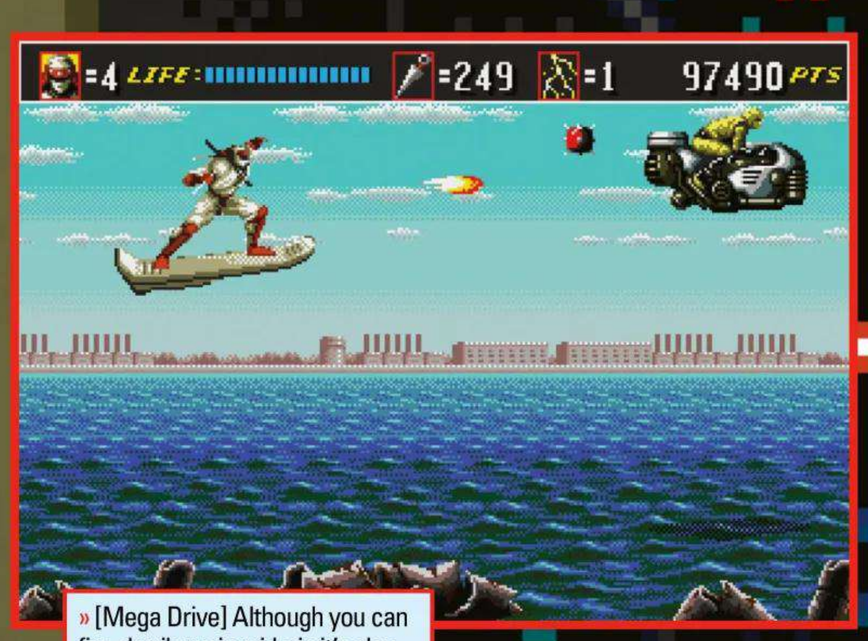
■ During a jump, while Joe is in mid-air, press down and attack. He'll come down and forward in a diagonal motion, kicking enemies in the head and rebounding off them.

WALL JUMP

■ When Joe is directly touching a wall in mid-air, hold the d-pad towards the direction of the wall and press jump for some extra height. This can be repeated as often as needed.

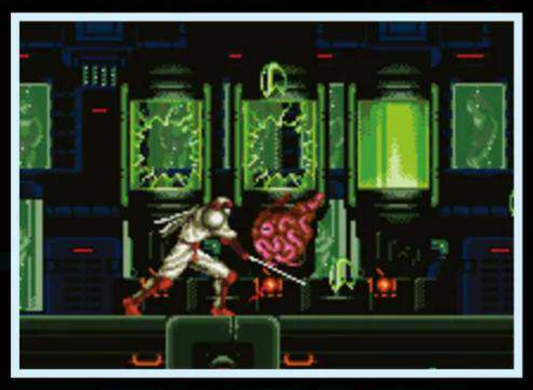
» [Mega Drive] The third stage boss lurks in the background, waiting for a chance at a cheap shot.

» [Mega Drive] This wizard pops up at inopportune moments to blast you with a jet of fire.



» [Mega Drive] Although you can fire shurikens in mid-air, it's also possible to dive kick while surfing.

THE TECHNIQUES YOU'LL NEED TO SEE OFF NEO ZEED



MELEE ATTACK

■ Get up close and personal with an enemy and press the attack button to deliver a strong attack that will conserve your shuriken supplies for more desperate moments.

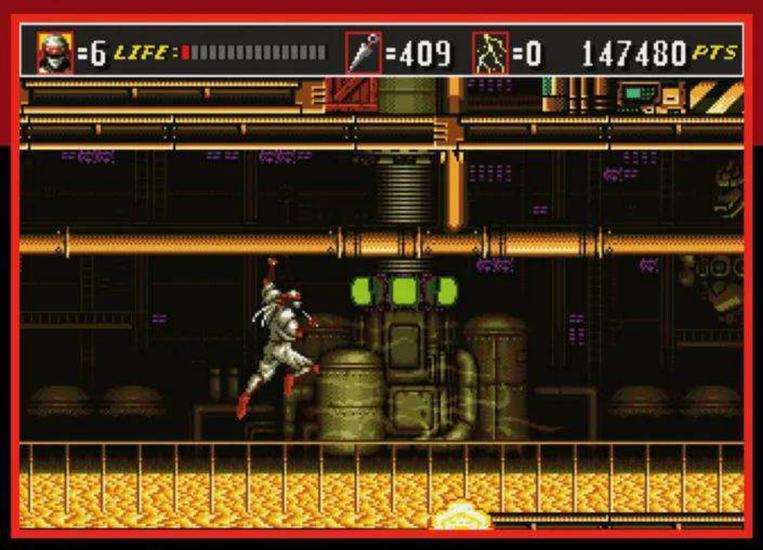
» [Mega Drive] A bomb's about to blow, so there's no choice but to leap to the floating barrels.

▶ the high speed of approaching obstacles providing the main challenge. These are slightly limited but serve as excellent setpieces, and thankfully they're deployed sparingly enough that they don't wear out their welcome.

That doesn't sound like the basis for a particularly revolutionary sequel, but the biggest change was in the capabilities of Joe Musashi himself. As great as *The Revenge Of Shinobi* was, it was a game that played at a deliberate, considered pace. *Shinobi III* was not only a faster game in general, but it offered a variety of new moves including diving kicks and a sprinting sword slash. The spectacular shuriken-spraying somersault of the previous game returned, and even basic close-range attacks received new animations that looked more dynamic. Other new moves were geared towards traversal, such as the wall jump and overhead climb, and they opened up new level design possibilities while testing your skill. You could see you were playing as a ninja in *The Revenge Of Shinobi*, but with Joe's newfound agility in *Shinobi III*, you could *feel* that you were playing as one.

***Shinobi III* launched in Japan in July 1993, and followed to North America and Europe shortly afterwards with some very minor revisions.** Reviews of the game were overall very positive. MegaTech gave the game a score of 93%, with Tom Guise saying that, "It's excellent looking, action-packed, full of secret rooms, has great bosses and is highly atmospheric." Paul Glancey noted that it was "a much easier game overall" than *The Revenge Of Shinobi*, but claimed that it was "mainly because Joe is now a much more versatile character with a wider range of attacks, and he can use his new hanging and jumping-off-walls moves to save himself". Other high scores included 89% from *Mean Machines Sega* and 85% from *Mega Action*. US publications loved it too, as it earned 9/10 from all four reviewers in *Electronic Gaming Monthly*, and an average of 92% from GameFan's four reviewers. ▶

» [Mega Drive] This forest inferno is one of the surviving elements of the original game design.



» [Mega Drive] Joe Musashi clings to the ceiling as the floor below him collapses after an explosion.

CRATE EXPECTATIONS

WHAT EXACTLY LURKS IN THOSE LITTLE WOODEN CONTAINERS OF JOY?

POWER PACK

■ Allows you to deal extra damage with both shurikens and melee attacks. The effect lasts until you next get hit.

SHURIKENS (SMALL)

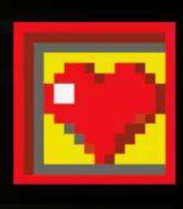
■ You know those dangerous metal projectiles that Joe throws about? Here are some of those. Don't throw them all in one place.

SHURIKENS (LARGE)

■ This is very much like the small pack, but twice as big – easily enough to have someone's eye out with, we reckon.

HEART (SMALL)

■ A healing item for those of you who can't stay out of trouble. This restores a little bit of Joe's life bar, but not much.



HEART (LARGE)

■ For those with much love to share, here's a bigger version of the healing item, which makes you feel far safer.

EXTRA LIFE

■ Collect a picture of Joe's masked face, and his incredible vanity will afford him another chance at beating the game.

NINJUTSU

■ Wasted your magic on a situation that you thought would be harder than it was, and now need a refill? Grab this, then.

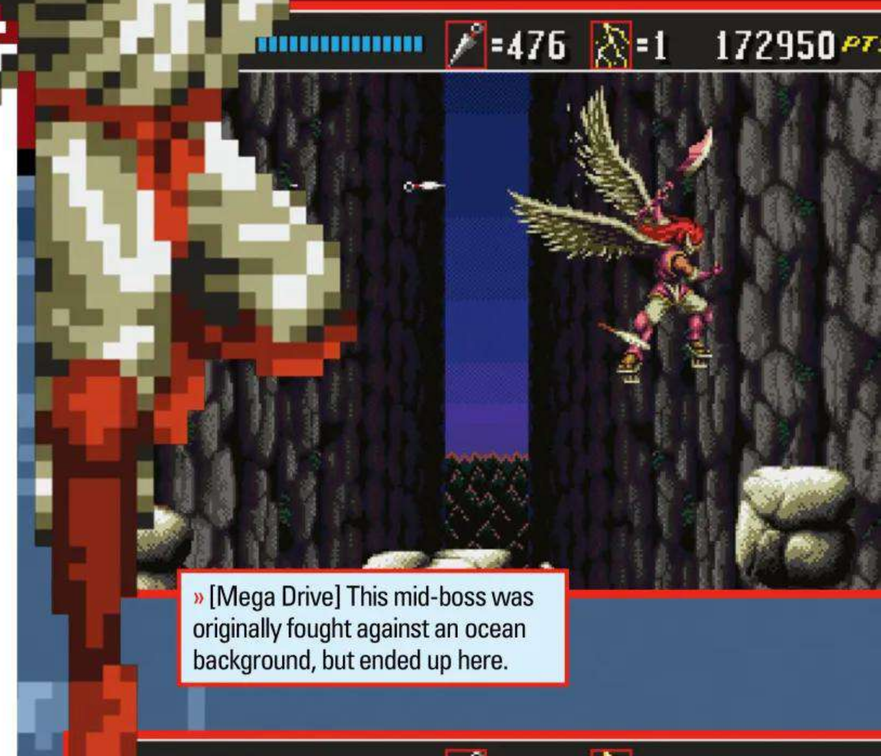
BOMB

■ This will hurt Joe if he's nearby when it goes off, and the dodgy timer counts quicker when he's near, so you should scarper.

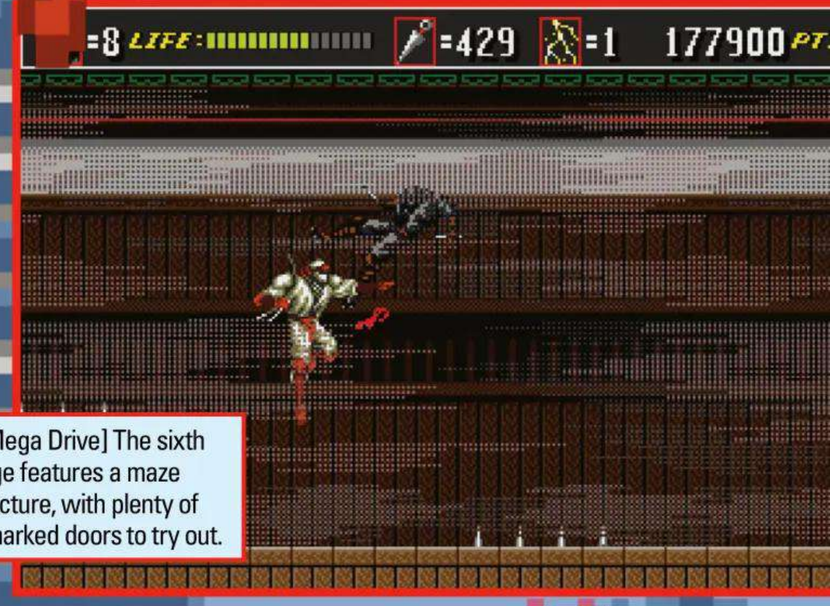
Even the least impressed publications were positive about the game. *Mega* awarded the game 79%, as reviewer Andy Dyer felt that "the graphics have been pumped up quite considerably" and that it had "a good number of imaginative and well-animated enemies", as well as bosses which are "varied, more often than not huge and, best of all, unpredictable in their attack methods". The only major criticism was that it was "far too easy", with too many extra lives and insufficient difficulty options. *Sega Pro* said it was "far too much of the same and it's easier than the previous two", awarding it 80%. Japanese publications were less warm to the game, with *Beep! Mega Drive*'s review team giving it 6.75/10 and *Dengeki Mega Drive*'s four reviewers awarding an average score of 69%.

Shinobi III sold well enough for Sega to develop *Shinobi X* for the Saturn, which retained the core gameplay of the series but added digitised graphics and dodgy FMV. Despite this the Megasoft staff were absorbed into other Sega departments, with Noriyoshi Ohba and director Tomoyuki Ito moving on to work together on *Clockwork Knight*. What's more, even with budget reissues available in both Europe and Australia, original Mega Drive copies of *Shinobi III* now fetch a high price of over £100 in all regions. Thankfully Sega has been prolific in its reissues of Mega Drive games so it's not hard to get hold of on other formats, with it appearing in three successive generations of Mega Drive compilations including the most recent one, Sega Mega Drive Classics for PS4, Xbox One, Switch and PC.

If you're a fan of ninja-themed games or platform games in general and you're stuck for what to play next, *Shinobi III* should be very high up on your list. It's a great-looking game with an excellent soundtrack. It's got brilliant setpieces and level design that remains consistently interesting, but above all else, it has a main character who is just a joy to control. This is a game where beating up hapless grunts in the first stage is just as fun as taking out the gigantic bosses, where you really do feel like an almost superhuman death dealer. The *Shinobi* series has given us some great games over the years, but *Shinobi III* may well be the very greatest of the bunch. ✱



» [Mega Drive] This mid-boss was originally fought against an ocean background, but ended up here.



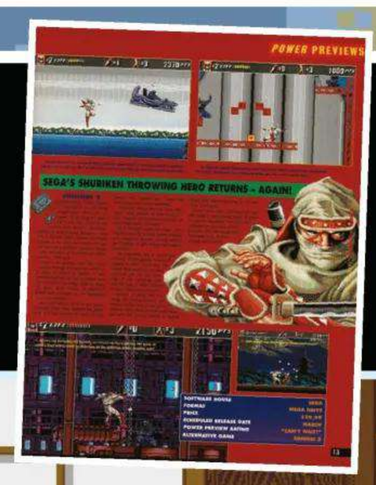
» [Mega Drive] The sixth stage features a maze structure, with plenty of unmarked doors to try out.

ADDITIONAL TRAINING

LOOKING BACK AT SHINOBI III'S ABANDONED FIRST RELEASE

The game we know as *Shinobi III* today isn't the team's original stab at the concept. In fact, the game was first completed around the end of 1992, and sent out to a number of magazines for review. This early version of the game didn't feature any of the horseback or surfing levels, but did feature a number of levels not included in the final game. These included a rocky stage set at night, featuring enemy tigers, and other stages such as the outside of a rocket readying for launch. The bosses were generally retained in some fashion, but most of the stages were heavily reworked even if their concepts were kept.

Reviewers generally scored this version highly, but expressed some disappointment in it. *Mean Machines Sega* gave the game 88%, but Rich Leadbetter felt it was "not quite as strong as the original game". *MegaTech*'s Tom Guise also gave it 88%, and felt that "the playability is still top-notch", but that the levels were "samey and uninteresting". *Sega Pro*'s Dino Boni, in an 89% review, felt that "the backgrounds range from okay to downright boring". As a result, Sega took the game back into development. A prototype exists, but is rather different to both this version and the final.



» [Mega Drive] You'll need to avoid the thrusters as you attempt to enter this airship.

BOSS RUSH

THE BIGGEST BADDIES NEO ZEED CAN THROW AT YOU, AND HOW TO BEAT THEM

STAGE 1

■ This multi-limbed terror looks intimidating, but isn't actually too tough. It's vulnerable to a running slash whenever it isn't attacking, so hit it with one of those. It'll then rear back and attempt to charge you, so be ready to jump – maybe even somersault, just to be safe. There are no alternative phases here, so this is very simple.

STAGE 2

■ When the screen is normal, this floating brain can be attacked so long as it isn't blasting electricity – if it is, your shurikens will be deflected. Try to time your attacks for when it attempts to drop on top of you. Whenever the screen is warping, your controls will be reversed, so take evasive action as best you can.

STAGE 3

■ The eye is the weak point of this mutated freak. When you hit it, it'll attempt to swipe at you with its hand, which you'll need to avoid a couple of times. Try to attack when it's on the far right of the screen to give yourself room to move. Watch out for its mouth laser attack – if you get hit, it's very damaging.

STAGE 4

■ Fling shurikens as fast as you can to start. Once this battle robot picks up its attachments, the real fight begins. You'll need to take out the gun-arm first, followed by the chained-shield one, each of which reduces its combat capabilities. The main body is pretty resilient once those are gone, but keep at it.

STAGE 5

■ Keep your distance from this mechanical monstrosity, as its fire breath has very long range. Attack the head to begin with, and when that's destroyed, aim for the control system in its neck. The chest lasers can be tricky to avoid – the trick is to time your jump between when the second and third one are fired.

STAGE 6

■ Does this villain look familiar? In the first phase, two shadowy versions will appear from behind the doors – you'll need to hit the real one to light it up and do damage. In the second phase of the fight, you'll lose all of your shurikens and be forced to battle hand to hand, while he runs around the room throwing deadly fans.

STAGE 7

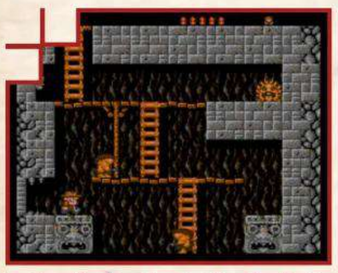
■ You've made it to the Shadow Master, and it's a very tricky fight. He's fast and can throw shurikens, dragon punches and dive kicks, as well as shower the bizarre fighting arena with energy attacks. Do your best to learn his patterns, but don't be afraid to use your Mijin ninjutsu to sacrifice a life for major damage.

THE MAKING OF

TOMB RAIDER II

HAVING TO FOLLOW ONE OF THE MOST ICONIC GAMES OF ALL TIME IS A HIGH-CLASS PROBLEM TO HAVE, BUT A PROBLEM ALL THE SAME. GAVIN RUMMERY TELLS US HOW CORE DESIGN MANAGED TO ENSURE THAT TOMB RAIDER II LIVED UP TO THE HYPE

WORDS BY NICK THORPE



DEVELOPER HIGHLIGHTS

RICK DANGEROUS (PICTURED)
SYSTEM: ATARI ST, VARIOUS
YEAR: 1989

CHUCK ROCK
SYSTEM: AMIGA, VARIOUS
YEAR: 1991

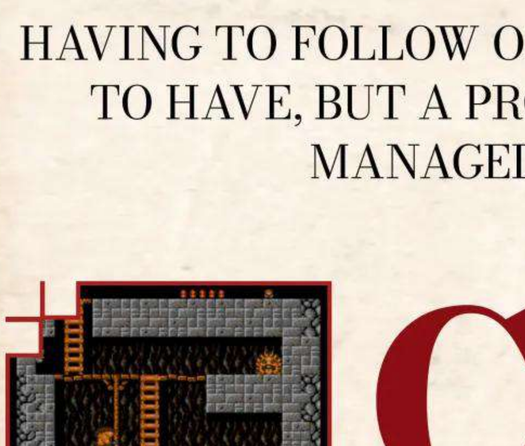
SOULSTAR
SYSTEM: MEGA-CD
YEAR: 1994

Creating a true smash-hit success is a feeling unlike anything else in the world. You struggle and toil away at something, much of the process taking place well away from the public gaze, and suddenly all eyes are on the thing you created. *Tomb Raider* was a cultural phenomenon from the very first outing, an enormous achievement for a small band of coders in Derby whose best-known creation before that was a caveman with a name that described his abilities, 'Large Stone Thrower' or something like that. [Do you mean *Chuck Rock*? – Ed] But having the eyes of the world on you is a double-edged sword. In 1996, the team at Core Design would have been happy with a magazine cover or two – in 1997, Lara Croft could even make the cover of non-gaming magazines. Everybody knew that a *Tomb Raider* sequel was on the way, and expectations were sky high.

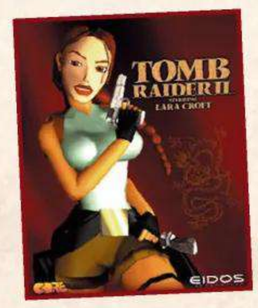
The original *Tomb Raider* had set a new standard for 3D action adventure games, and there are two schools of thought when it comes to following up a revolutionary game like that. Some developers seek to replicate the impact of the original, others look to quickly serve an improved second helping to a hungry audience, and both approaches have risks. Taking the former approach can be both expensive and more importantly time-consuming, potentially allowing other developers to catch up and the players shifting their attention elsewhere. Go for the latter and it's possible that your improvements will fall short of expectations, leading to accusations that you've served up more of the same.

"We mainly wanted to make a worthy sequel that kept what was good about the original but enhanced the experience," says Gavin Rummery, lead programmer of *Tomb Raider II*. "Design discussions about the sequel started immediately after the original shipped, but development didn't start in earnest until the new year as some of us were still finishing up language versions and demo disks for *Tomb Raider* on the run up to Christmas. Then we had about ten months to get the sequel built." An iterative sequel was the only choice with that kind of time frame. Toby Gard, the lead artist and concept creator for the original, and Paul Douglas, the lead programmer of the first game, famously did not return for the sequel, but most of the team did so the foundations were solid.

One of the first areas that the team looked at was control – a necessity given the fast pace of overall improvements in 3D game design at the ▶



[PlayStation] That first sight of sky is designed to stun, after the original game's caverns.



IN THE KNOW

» **PUBLISHER:** EIDOS INTERACTIVE
» **DEVELOPER:** CORE DESIGN
» **RELEASED:** 1997
» **PLATFORM:** PLAYSTATION, PC
» **GENRE:** ACTION ADVENTURE

[PC] With swinging blades and collapsing floors, the Great Wall is no easy introduction.

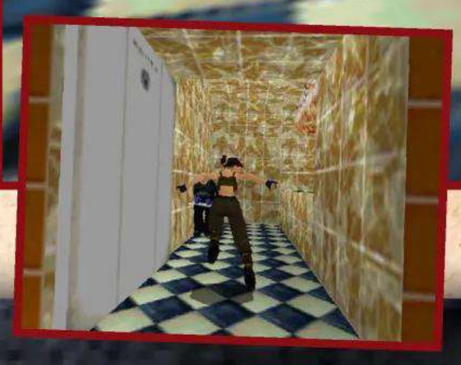
OLD AND COLD

GAVIN EXPLAINS THE ORIGIN OF WINSTON THE BUTLER

One of the most infamous features of *Tomb Raider II* is the ability to carry out an act of bizarre cruelty by locking Lara Croft's butler Winston in the walk-in freezer at her mansion. If you've played it, you've almost certainly done it. Don't worry, we're not judging you – we've done it too, as well as just about everyone else. But how did this odd inclusion come about? "Winston was a very last-minute addition to the game," Gavin recalls. "Our second animator, Joss [Jocelyn Charmet], had finished everything that was needed for the game, but had the idea that Lara should have a butler – Joss was French, and to him this is what upper-class Brits would have. I was originally sceptical that Lara was the kind of girl to want a butler, but we hit on the excuse that he'd come with the house.

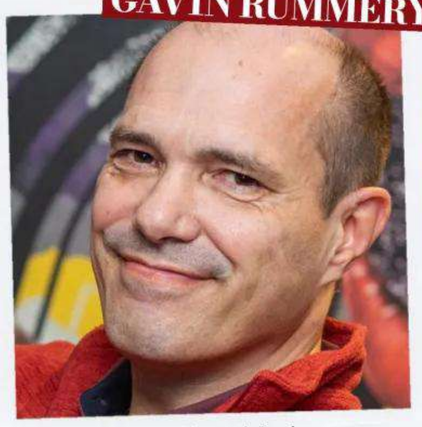
"It took all of about three days from Joss suggesting the idea to him creating the character and animations, and me putting him in the game, because he doesn't do much." Indeed, Winston just follows Lara around as you play the tutorial level, never quite making a nuisance of himself but never going away. "I don't know who first thought to lock him in the freezer, but I wasn't really aware it was a thing till the game released and people started to do it to stop Winston following them around," says Gavin. "Heather had just added the walk-in freezer as part of trying to add interesting things to Lara's house – it hadn't been intended for it to be used in that way at all!"

» [PC] "Winston, could you be a dear and choose a cut of meat for tonight's dinner?"



» [PC] "And while you're in there, take some time to chill out!" "Very good, ma'am."

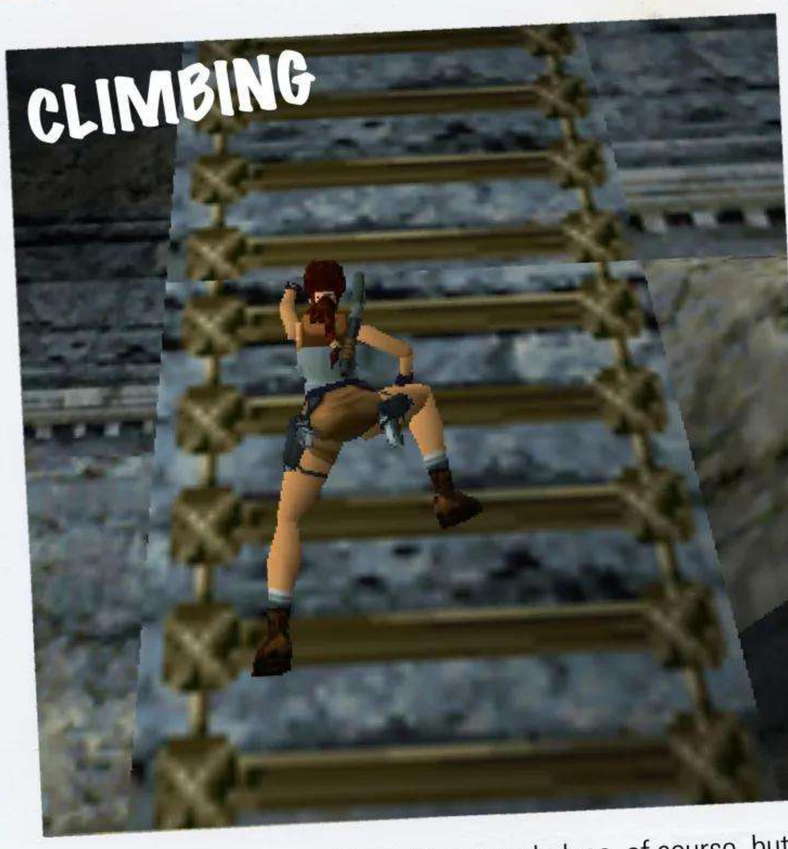
GAVIN RUMMERY



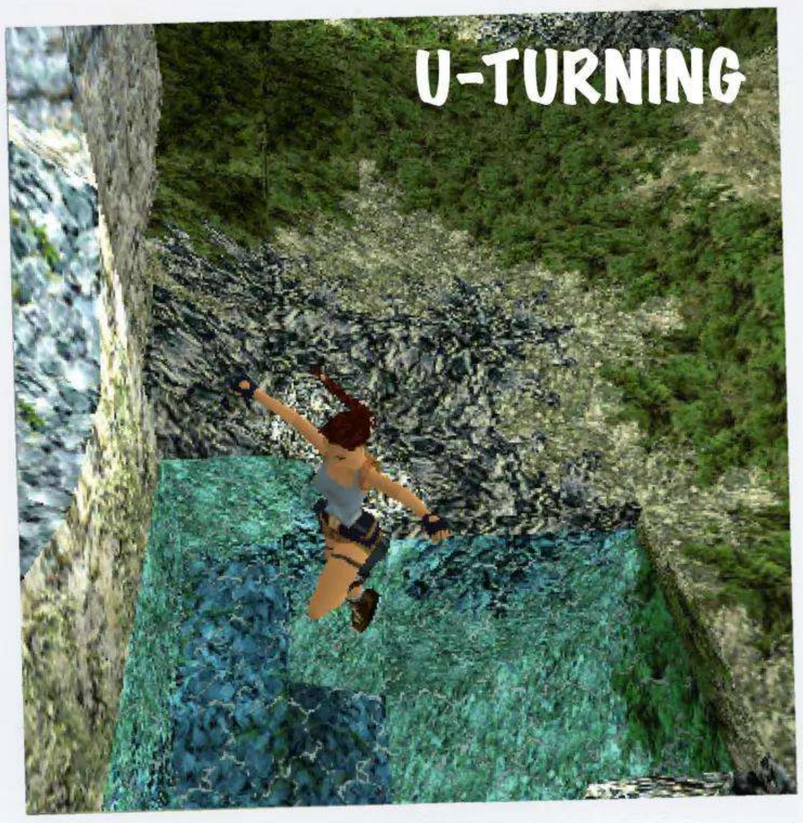
After working on the original game, Gavin became the lead programmer for *Tomb Raider II* at Core Design.

SHE'S GOT THE MOVES

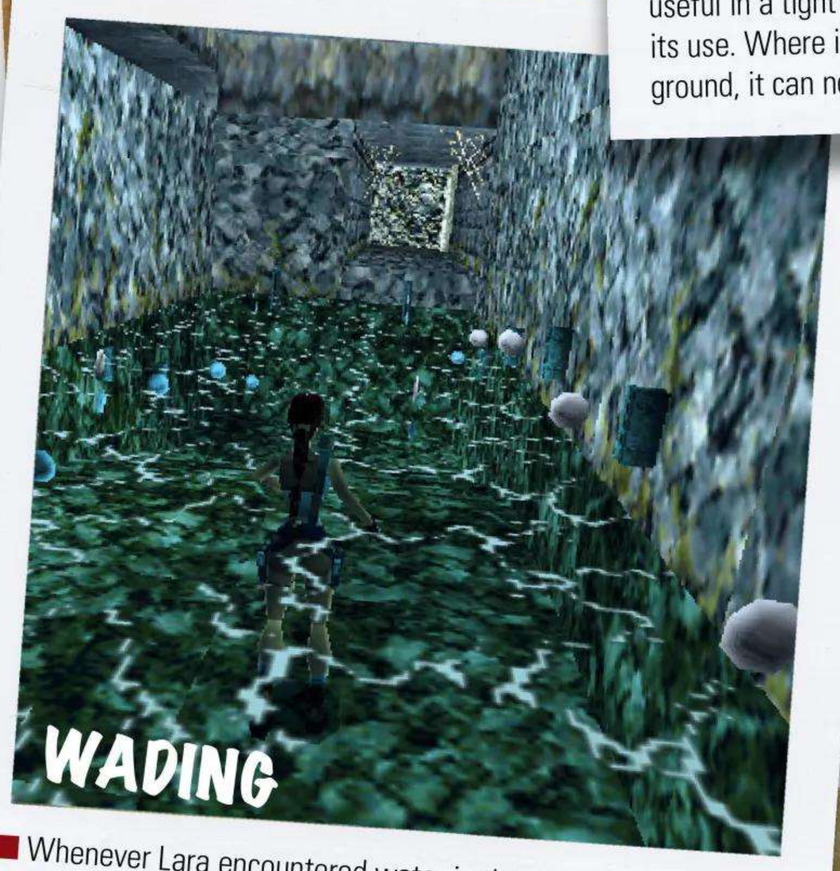
THE NEW ABILITIES LARA GAINED IN HER SECOND ADVENTURE



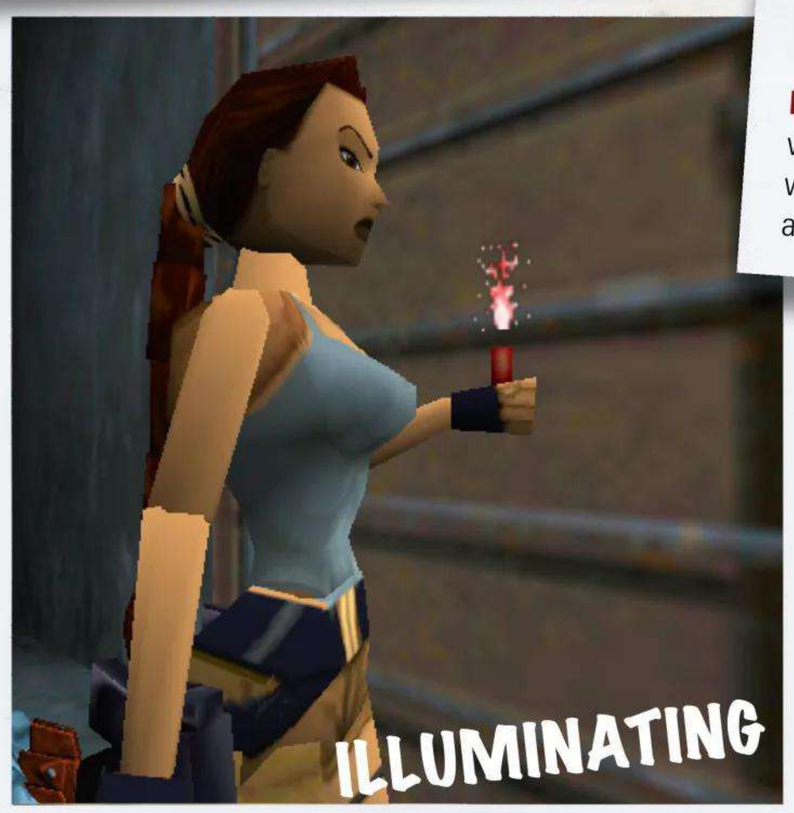
■ Lara could always haul herself up over ledges, of course, but *Tomb Raider II* introduces ladders to climb. Where reaching a high place previously necessitated an elaborate jumping puzzle or a series of ledges, the obvious solution is now available.



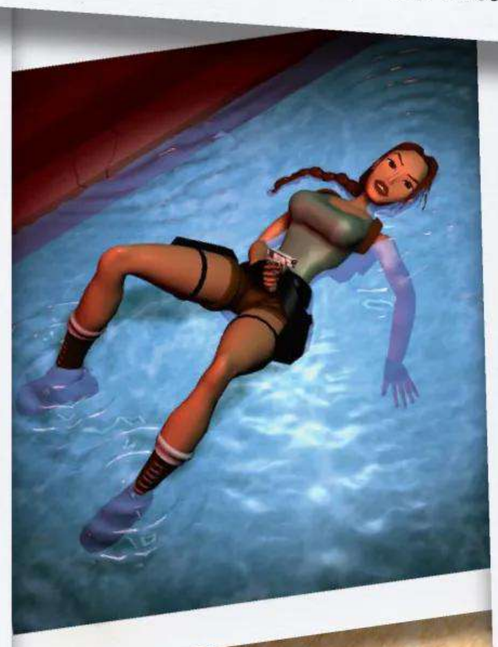
■ Lara's emergency roll from the original game was really useful in a tight spot – so useful that Core saw fit to expand its use. Where it could previously be performed on the ground, it can now be used in mid-air and while swimming.

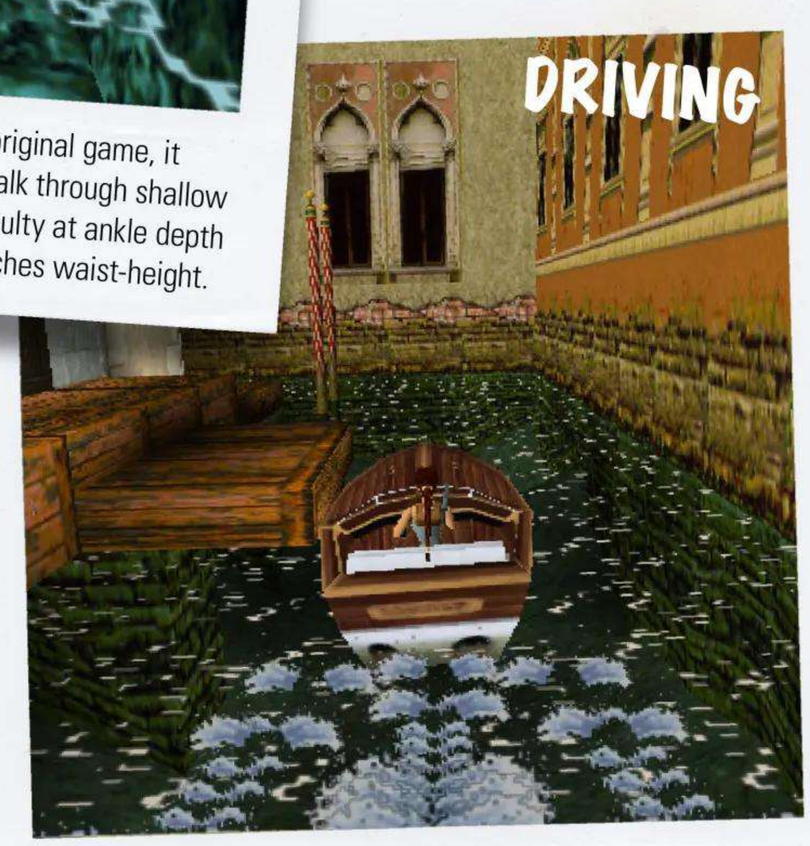


■ Whenever Lara encountered water in the original game, it was always deep water. Now she's able to walk through shallow waters rather than swimming, with little difficulty at ankle depth and a considerable speed penalty when it reaches waist-height.



■ Dynamic lighting was all the rage in the late-Nineties, and what better way to show it off than to create some really dark places? Lara can now light flares, temporarily allowing her – and you, crucially – to see her surroundings.





■ Sometimes, even the most experienced adventurer could do with some mechanical help when conditions demand it. Lara can use a motorboat to navigate the canals of Venice, and can use a snowmobile to blast through Tibet.

» [PC] Having humans accompanied by attack dogs is a good way to mix up enemy types.

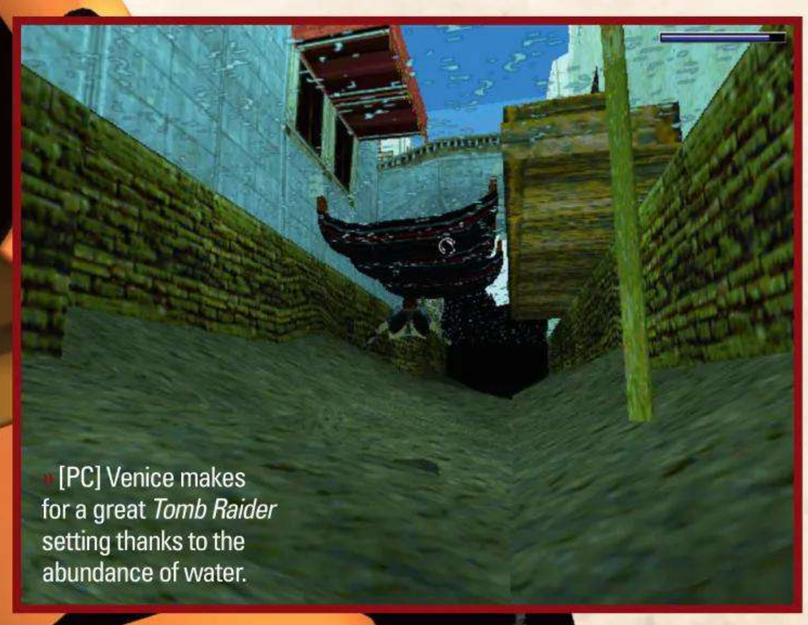
time. "At its most basic, there were various things about the way Lara controlled that we thought we could improve," Gavin remembers. "One of the first things was allowing Lara to jump the instant the jump button was pressed rather than waiting for a specific point in her animation to make the general hopping around feel more responsive. There were various other small changes like that in the controls to speed up animations that were sluggish, to make everything feel a bit smoother."

While those kinds of improvements will definitely improve the feel of a game, they run the risk of going unnoticed. Fortunately, some major additions were also on the cards. "We wanted to fill out her moveset to remove some of the restrictions that existed for the level designers," explains Gavin. "For example, in the original game, Lara was either in the water or out, and so every pool needed to be like a swimming pool that she dived into. In *Tomb Raider II* we added all the animations to allow her to wade through any depth of water, so the level designers could have shallow pools and the like. They also wanted to allow Lara to be able to gain height more quickly, so we added the climbing moves."

It's arguable that while Lara Croft was the face of the first game, the locations were the real heart of it. The air of mystery about them was unmatched, and the desire to explore them was a matter of instinctive curiosity more than anything else. However, there was a slight problem. "We had used up the majority of the most well-known ancient civilisation ruins and tombs on the first game," says Gavin. Fortunately, a suitable approach avoided a situation of having to revisit *Tomb Raider* without the tombs. "The level designers Heather [Gibson] and Neal [Boyd] were keen to branch out into some more modern settings, including 'modern tombs' like the levels based on the sunken ship."

The new approach to level designs required one major change to the graphics. "We also wanted Lara to feel like she was outside, instead of the black sky of the original, and so added a skybox and the logic to make that work with the limited draw distances available at the time," Gavin explains.

That wasn't the only graphical change that would have an impact on the level design, as the addition of dynamic lighting allowed for darkened areas that Lara could light up herself. Some additions were purely cosmetic, though. "I also had a desire to get Lara's ponytail working as it was such a key part of her character design, but in the original the attempts to get it working had failed and so she'd ended up with her hair up in a bun. Fortunately I figured out a cheap way to simulate it that looked pretty good," Gavin recalls.



» [PC] Venice makes for a great *Tomb Raider* setting thanks to the abundance of water.

A rather more major feature that had been planned for the original game also managed to make it into the sequel. "We'd also wanted to add vehicles in the first game but didn't have the time, so that was also a goal," says Gavin. "We initially planned on a motorbike, but needed something that wouldn't look daft if you were crashing it into walls – with a motorbike you'd expect it to fall over and Lara to go flying, and that was just too complicated for what we could do at the time," he elaborates. "We decided on the boat and snowmobile because they were 'stable' machines that Lara could hop in and out of, which was relatively innovative at the time as most games had special 'vehicle levels' where the player spent the entire level attached to the vehicle." We'd expect such a major feature to cause some major headaches, but according to Gavin that wasn't the case. "I don't remember any specific problems in the implementation. Stuart Atkinson (the animator) and I hit on a way of doing everything using animations, so it used systems we already had working rather than fancy physics."

One major aspect of the game that was overhauled was the result of player feedback from the original game "The one consistent bit of feedback we got about the original was that people wanted more combat as the tombs could get pretty empty after the initial enemies were dispatched," Gavin tells us. "Of course, when we added more combat in the sequel, all the people who'd been happy with the lack of combat in the original complained, proving you can't please all the people all the time!" In order to emphasise the combat, Gavin and the team had to tackle the problems of the first game's battles. "We did try and improve the combat over the original as it was always the weakest aspect. The concept of Lara auto-targeting and the player therefore concentrating on leaping around was great in theory but not quite so cool as it sounded in practice," he tells us. "One aspect of the original was the lack of human enemies which made it spectacularly easy for

» [PC] The fall won't kill Lara, but the angry dogs below might well do.

» [PC] This swinging crate is quite a nuisance – who put that there, do you think?

Lara to avoid damage by simply standing on a block and blasting the enemies from safety.

"To try and improve things we added a few more dodge moves, including being able to flip in the air to spin 180 degrees. We also added more variety to the weapons: the grenade launcher and M16, and a harpoon gun for underwater. And lots more human enemies so Lara had to move around more to avoid taking damage. There was also the fun level where the monks fought with you, so long as you didn't shoot them. But the general consensus over the years is that we went too far and added too much combat in *Tomb Raider II*. If I could go back in time, that's the one aspect of the game I'd tone down a bit."

One location that Lara would ultimately not venture to was the Sega Saturn. The original game had been very demanding on the console and didn't perform quite as well as the PlayStation and PC versions, so accommodating the ambition of the sequel was always going to be tricky. In an interview with Next Generation Online, Adrian Smith said, "If we looked long and hard enough at it, we could have done another Saturn version, but I think we might have been compromising what we wanted to do on the PlayStation and PC." He noted that *Tomb Raider* was not a good fit for the hardware, stating, "There was no way we could gain improvement from the Saturn version because we couldn't make use of things like Mode 7 floors." In the end, Sony had the final word, signing an exclusivity deal that kept Lara off of other consoles until the year 2000.

Even without the Saturn to worry about there were some headaches to overcome, as Gavin explains. "Heather wanted a lift in the Opera House which sounded pretty straightforward but ended up being a huge headache. Lara's entire control system was written assuming the ground wasn't moving, and in a lift that isn't true. It caused endless bugs and grief, and given it only appears in that one level really wasn't worth it," he recalls. "We also had a bit of crazy fun with the final dragon that had too many joints for our animation system to handle. So it is actually made of two separate parts that move together, a bit like a pantomime horse!"

Despite the short development period, the team fired on all cylinders. Nathan McCree had the opportunity to compose much more music than in the first game, greatly enhancing the atmosphere, and the graphic artists were able to create new outfits for Lara to match her environments. Writer Vicky Arnold tied the levels together with a new tale, based on Lara's quest for the Dagger Of Xian, a magical weapon that could turn its owner into a dragon. This time the primary antagonist would be Marco Bartoli, who sought the power of the treasure for himself, and Lara's conflict with his Fiammi Nera group would see her escaping situations including being imprisoned without any weapons. Feeling that the final fight against the dragon wasn't a fitting ending, the team actually added a final stage in which Lara's mansion is besieged by enemies.

"Amazingly we achieved everything we set out to do, and even had time towards the end to cram in extra elements like the final Home Sweet Home level and Winston the butler," says Gavin. "But it required working about six months of crunch which was very wearing."

Although that effort took a toll on the team, the results were truly stunning. *Tomb Raider II* is the kind of game that opens with intent – even as early as the tutorial at Lara's mansion, it's easy to tell that the instruction is more robust than in the previous game and the inclusion of a time trial element is welcome. But it's when you first arrive at the Great Wall stage that you're really hit by the new elements, and that's by design. As soon as possible, the camera swings around to give you the view of a passing helicopter, showing off the brand-new sky that emphasises the outdoor setting. You'll need to approach a shallow pool of water in order to start making your way up the wall, and once you get there a tiger appears to give you a chance to test your new combat agility.

If you were to say that sounds like a bit of a hectic introduction, you wouldn't be wrong. *Tomb Raider II* is definitely positioned to be a challenge for fans of the first game, and that means that the overall difficulty level is higher – the traps are trickier, the enemies are that bit smarter and key puzzle elements are sometimes disguised quite cleverly. Perhaps in order to compensate for this increase in challenge, the PlayStation version allowed players to save at any point in the game, rather than having to find save crystals as in the first game. This wasn't a major change for PC players of course, as this ability was included in the very first game.

GOING FOR GOLD

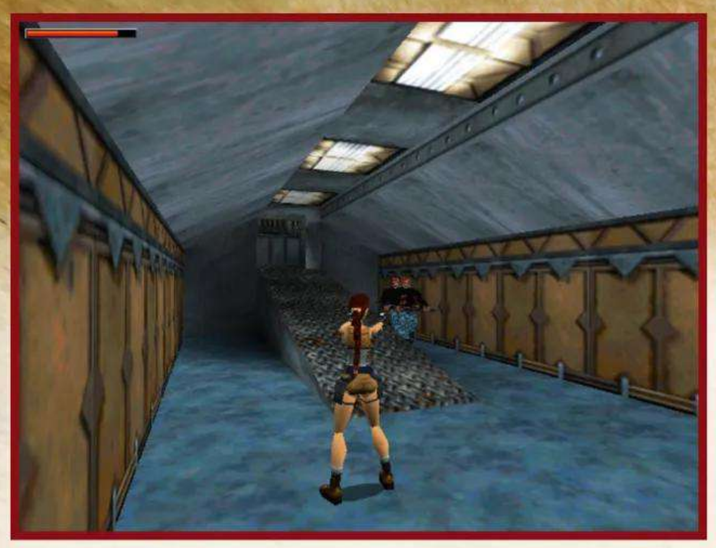
A LOOK AT THE OFFICIAL EXPANSION FOR TOMB RAIDER II

Although *Tomb Raider* is a series that is commonly associated with the PlayStation consoles, it was PC owners that arguably received the most love in the early days of the series. The first three *Tomb Raider* games all received expansion packs that were only made available to the computer crowd, and *Tomb Raider II* has the most interesting of the three. Where the first and third games bulk out their respective plots, the *Golden Mask* expansion takes the mechanics of *Tomb Raider II* and creates a brand-new mini-adventure with them.

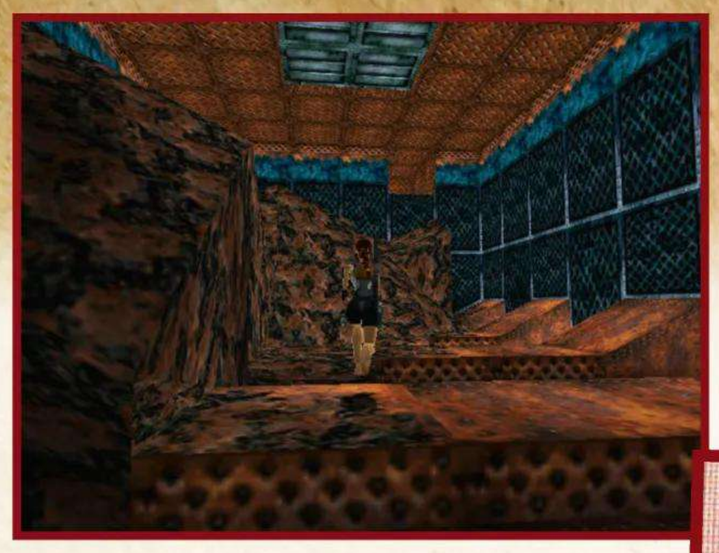
The plot of the expansion sees Lara travelling to Melnikov Island in the Bering Sea between Alaska and Russia, in search of the titular artefact – the Mask Of Tornarsuk. Naturally she's not the only one after it, and mercenaries are already present on the island, as well as the usual array of hostile animals that seem to greet the adventurer wherever she travels. Over the course of four stages Lara gets to discover that the Soviet Union had stationed people on the island in the past, and eventually has to defeat a guardian to claim the treasure. Should you beat this little adventure and find all 12 secrets, a bonus fifth stage titled Nightmare In Vegas becomes available.

Although the PlayStation never received an official version of the *Golden Mask*, a fan who goes by the online handle b122251 managed to create an unofficial port of the adventure in 2019. This was an impressive feat – since these levels were not designed to run on the PlayStation version, various tweaks and even adjustments to the game saving code were required to get them working.

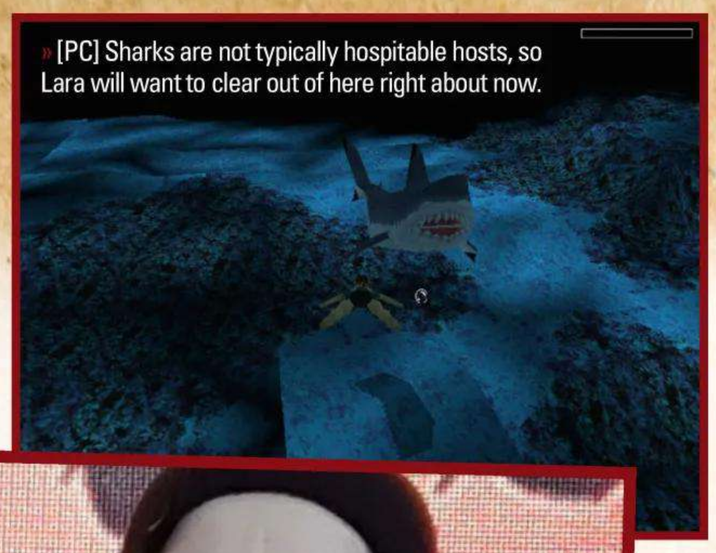
» [PlayStation] The fan-made PlayStation conversion is really quite an impressive bit of work.



» [PC] Aboard the offshore rig, enemies like to attack Lara with big metal pipes. How welcoming.



» [PC] Often, intriguing gameplay arises from simply solving the question, "OK, how do I get up there?"



RAPID RAIDER

TWITCH STREAMER TAYLORMADEAIDENTAYLOR DISCUSSES SPEEDRUNNING TOMB RAIDER II

How did you first encounter *Tomb Raider II*?

My mum said to me and my brother that we could pick any game we want from this catalogue. All we had was the image of the game to go on, so we picked *Tekken* and *Tomb Raider* and I remember specifically it was the covers and just seeing Lara Croft captured me. I think I was about six years old, and before that every game I played was *Mario* or *Zelda* so it was the first time a female protagonist caught my eye.

What made an impression when you played the game?

It was the exploration and the puzzles, and feeling like I was outsmarting the game even though that was the intended way of playing it. Also the sort of fantastical elements that came in every now and then, and the music played a big part as well – it was familiar, but otherworldly at the same time.

What inspired you to go back and start speedrunning the game?

It was during lockdown, and I honestly don't know. Speedrunning interested me when I first discovered it, but I was never interested in the sort of speedruns where the games are completely broken. With *Tomb Raider* speedrunning, you're doing the movements that developers intended but in a way that they didn't intend, if that makes sense – like you're using the jump mechanics to go through walls and things.

Your personal best is 59:24 – what was the most difficult technique you had to learn to get your time under an hour?

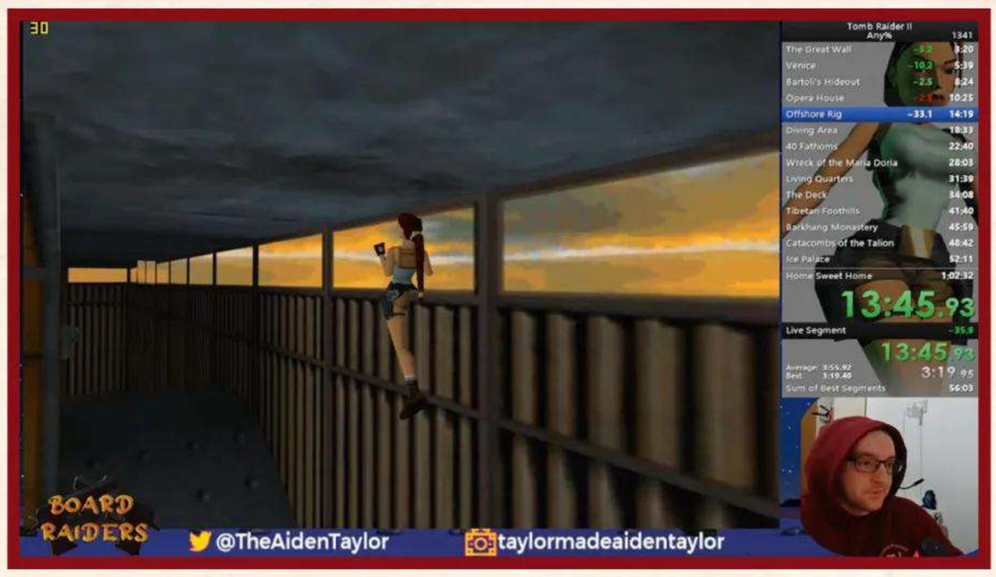
I think the hardest thing to learn is that you're going to fail a bunch, and that you're going to reset a bunch. You're going to see Great Wall a thousand times and you have to mentally prepare yourself for that. It's just the motivation when you've been doing it for four hours and you're still in Great Wall, it's really hard to get over sometimes.

You're part of a community, Board Raiders – who are they and what do they do?

I found about it through another streamer called Beckski, she's represented the game at GDQ (Games Done Quick) a number of times. It was watching her that actually showed me how it's done. With normal speedrunning, the main categories are just either glitched or no glitches. But other people like to do challenge runs where they have to do it without killing any of the enemies, or just doing specific levels as quickly as possible, which requires different strategies. There are leaderboards for these but they're not as full as the main ones, so the goal of Board Raiders (@boardraiders on Twitter) is to just get everyone who normally just runs the full game to do these other categories.

Why is *Tomb Raider II* the game you come back to the most?

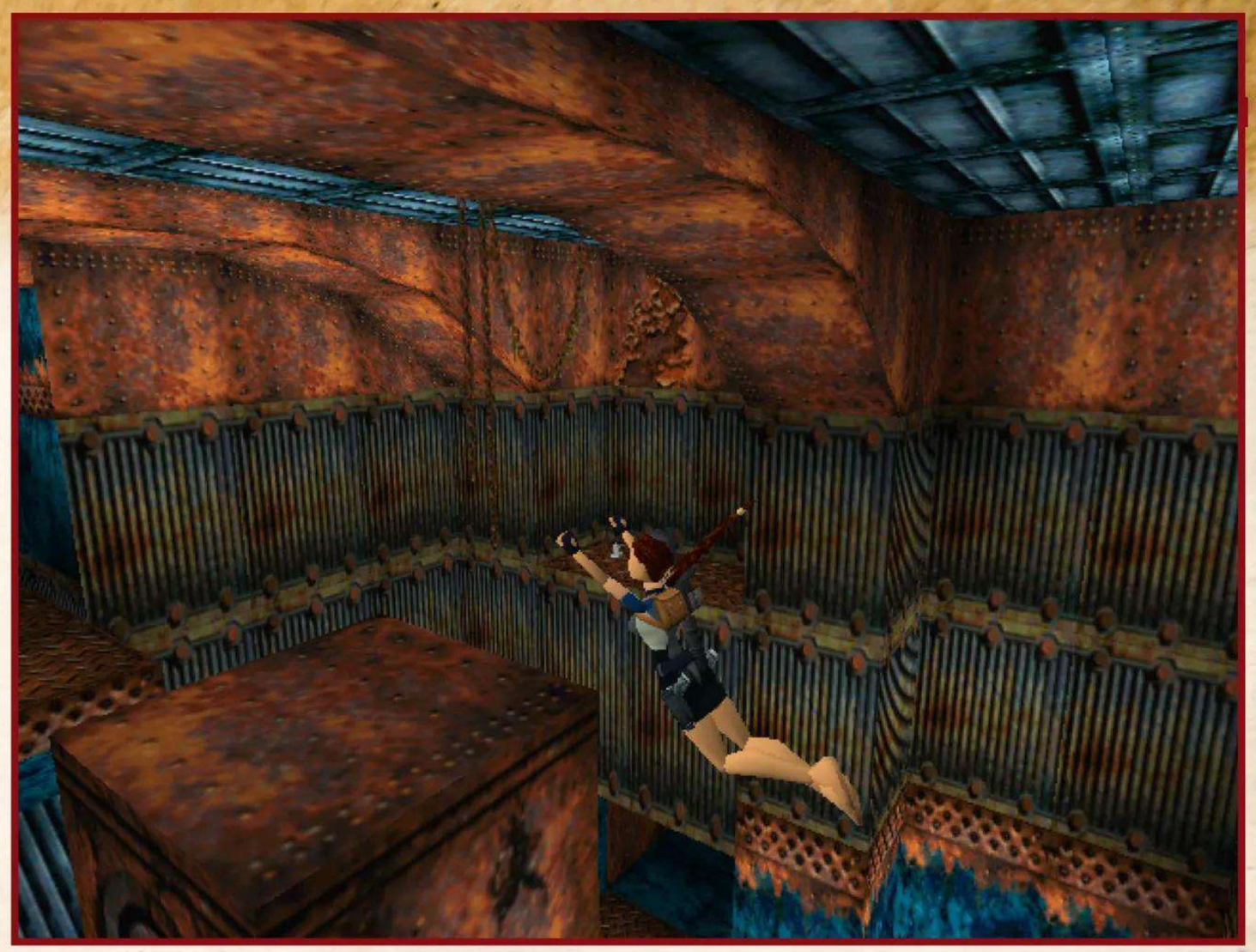
Tomb Raider II was always my favourite. I like two for different reasons than I like one, but I think the movement mechanics of two just feel smooth. I think the nostalgia does help – I do really think fondly of *Tomb Raider II* more than I do the other ones, despite loving the first one as much as I do.



» Lara straddles the wall, saving time and making it look painful in the process.

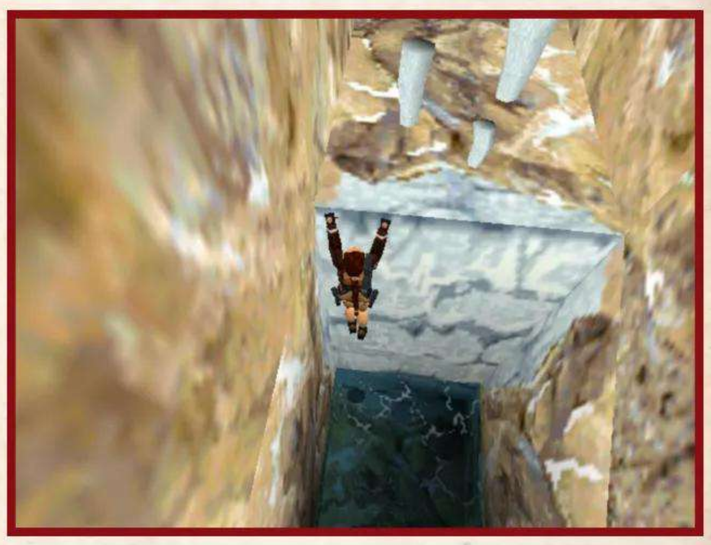
» Some glitches are useful, but this snowmobile animation error is just amusing.

» [PC] Standing atop the corpse of a fallen enemy, Lara uses her machine gun to create another.



» [PC] No matter how often you make those fingertip jumps, it's always a thrilling moment.

» [PC] Flares aren't the only way to light up an area – the M16 can help too.



» [PC] A deft hop backwards prevented Lara from getting a deathly case of brain freeze.

Tomb Raider II launched in November 1997, to an overwhelmingly positive critical reception. *Edge* gave it 9/10, saying that it "stretches the PlayStation in particular to new heights of coding excellence and introduces several new twists", but noting that "some may see it as a conservative retread of the original". *Play* gave the game 95%, noting that the lack of combat opportunities in the original "seems to have been addressed with plenty of animals and, in particular, lots more gun-toting humans to shoot at". *GamesMaster* felt that the shift towards modern environments and extra combat meant that, "If Indiana Jones was a good reference point for the original, in this sequel there's a subtle shift to 007," and gave a score of 92%. *The Official UK PlayStation Magazine*'s 10/10 review commented on the difficulty of the game, noting that it was "quite a bit harder" but that the ability to save anywhere meant that the game "loses some of its flow to the continual ghastly interruptions of the loading screen". Other scores included 95% from *PlayStation Plus*, 5/5 from *CVG* and 94% from *PC Gamer*.

The game was exactly the kind of commercial success that Core Design and its owner Eidos had hoped for. *Tomb Raider II* earned multiple sales awards and became the second best-selling PlayStation game ever in the UK, behind only *Rayman*. The game has sold over seven million copies in its lifetime, putting it roughly on par with the original. A sequel was inevitable, but the extended crunch and need to have the third game ready within a year ultimately proved too much for the team. Rather than working on *Tomb Raider III*, key team members including Gavin, level designers Heather Gibson and Neal Boyd, and animators Stuart Atkinson and Jocelyn Charmet all moved on to work on *Project Eden*, a PS2 game for which Gavin also wrote the script and original concept.

Now that the *Tomb Raider* series has been a fixture of the gaming landscape for decades, it's easy to look back at *Tomb Raider II* and think that its success was virtually assured, especially given the amount of hype and expectation surrounding it. To think that is to forget how difficult it is to repeat a success, and the team at Core Design performed admirably with the pressure of a tight deadline and the eyes of the world upon them. If *Tomb Raider* is the game that made a star of Lara Croft, *Tomb Raider II* is the one that confirmed that she would be no flash in the pan, solidifying the series and setting it up for further sequels, a Hollywood adaptation and mountains of merchandise.

For those reasons, the game is fondly remembered by fans as one of the highlights of the series and Gavin is also fond of it in retrospect. "I've always personally been very happy with *Tomb Raider II*. We actually finished everything we planned to do, whereas in the original we were hit with a deadline we could barely meet and so the end of the game was rushed and slightly incomplete – you were supposed to escape from a collapsing pyramid whilst battling monsters all the way, but in the game there's about two bits of falling masonry, a wobbly camera, and an escape chute that ends the level," he explains. "On the sequel we were well into our stride, and everything we added was trying to improve weaknesses in the original and trying to make it a more complete experience that had more variety and a bit of everything we could do at the time," he continues. "So I guess fans responded to all that, and for many it is one of the earliest *Tomb Raider*s they ever played so it has a special place in their hearts." It definitely does, and we'd hazard a guess that more than a few of them will now be raiding their collections to give it another play – and just as in 1997, it'll be a thrilling adventure. ✱

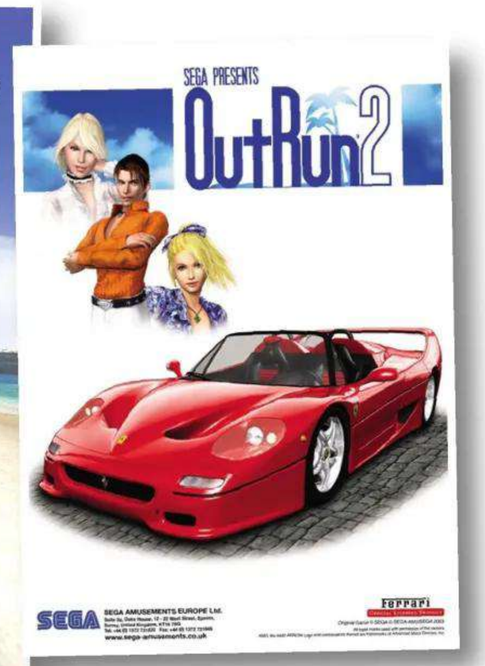
The Legend Lives On:

20 YEARS OF OutRun 2

TWENTY YEARS AGO AN ARCADE RACING LEGEND WAS BORN AND GAMERS WERE TAKEN ON A BEAUTIFUL JOURNEY THAT CONTINUES TO THIS DAY. JOIN US AS WE CELEBRATE THE ANNIVERSARY BY SITTING DOWN WITH SUMO DIGITAL TO CHART THE ENDURING HISTORY OF OUTRUN 2

WORDS BY MARTYN CARROLL

» [Arcade] Did you spot it? The initial coin-op release features a Testarossa with a completely different rear engine grill.



» The legend lives on! *OutRun 2* arrived in 2003, 17 years after the original arcade game.

Sega hasn't always had a perfect record when it comes to updating its popular franchises. We may praise *Sonic Generations*, *After Burner: Climax* and *Streets Of Rage 4*, but then we remember *Shinobi X*, *Golden Axe: Beast Rider* and *Sonic Boom: Rise Of Lyric*.

Such potential for disaster is surely why Sega waited 17 years before it dared to release *OutRun 2*. It wasn't the first follow-up to the revered 1986 original, but it was the first in which original creator Yu Suzuki and his AM2 team could update the game for a new generation – both in terms of hardware and audience.

Their trick was to look at the original and consider what worked – the sense of freedom offered by the branching route, the amazing multi-tune soundtrack, the whole breezy blue sky vibe – and ensure that was all replicated in the sequel. But crucially they also looked at what didn't work.

For many *Out Run* is a true pedestal game. We remember the first time we played it in the arcades and it was so far in front of everything else that it left an indelible mark. We tend to forget that it could be a frustrating, overly difficult experience where a couple of crashes were enough to end your game. We overlook the fact you had to actually use the brakes on the more torturous stages. Pleasant nostalgia hides all of this from us, but thankfully AM2 was not similarly affected when developing *OutRun 2*. The key was the introduction of drifting. The twists and turns were all still there, but now you could take them sideways, effortlessly sliding around the corners without losing speed. And if you did crash out, you'd be up and running much more quickly. But even though it was easier it was not dumbed down. By learning each stage and working out the best racing lines you could shave seconds off your time. The game even included a Time Attack mode that provided players with traffic-free routes on which to secure their best times.

Alternatively, if you wanted something more frivolous there was the Heart Attack mode where your somewhat bossy female passenger gave you a series of challenges to complete. The pure nostalgia stuff was all in there too. The fifteen-stage, five-goal branching structure was reinstated, with Europe's scenic routes once again the backdrop. The Testarossa returned, along with seven other licensed Ferrari models. And Radio Sega was also back, playing the three classic tunes from the original (in rearranged form) plus four brand-new compositions. The result was not just a considered update of *Out Run* but a game that *Edge* magazine called, "A pinnacle of the arcade racing tradition, a peak that may never again be topped."

> "THE FIRST THE DEVELOPMENT TEAM KNEW ABOUT THE PROJECT WAS WHEN A VAN PULLED UP AND DELIVERED THE ARCADE MACHINE TO OUR OFFICES"
>
> **PHIL RANKIN**

OutRun 2 debuted in arcades in December 2003 and was available as a single and a twin cab. Machines could also be linked to allow up to four players to compete against each other. The game ran on Sega's Chihiro hardware which was based on Xbox architecture, so for the inevitable home version it made sense to exclusively target Microsoft's console. For conversion duties Sega looked at a number of external developers and eventually settled on Sumo Digital, a new studio based in Sheffield. Sumo might have been ▶

» Steve Lycett helped design and produce the *OutRun 2* conversions at Sumo Digital.

» Phil Rankin was lead programmer on the Xbox version of *OutRun 2*

» Pete Ellacott coded the PlayStation 2 version of *OutRun 2006: Coast 2 Coast*.

» [Arcade] The chicane at the end of the opening Palm Beach stage has caught out more than a few heavy-footed drivers.

WANNABE SEQUELS

CELEBRATING THE EARLIER ATTEMPTS TO EXTEND OUT RUN'S LEGACY

TURBO OUTRUN
1989

■ The first arcade follow-up swaps the original's branching route for a 15-stage cross-country dash and introduces weather, cops, obstacles, rivals and of course a 'turbo' button. It's fast and fun, and the soundtrack is superb, but there's almost too much going on here.

BATTLE OUTRUN
1990

■ Released exclusively for the Master System, this is an unlikely mash-up of *Turbo OutRun* and *Chase HQ*. The idea of purposely smashing a F40-alike into criminals' cars is implausible, and not really in the spirit of the original *Out Run*, but it's an entertaining diversion for the series.

OUTRUN EUROPA
1991

■ Following its home conversions of *Turbo OutRun*, US Gold cobbled together this off-key effort where you drive cars, bikes and even jet-skis on some kind of goofy espionage caper. It appeared on several systems of which the Amiga version (pictured) is the best.

OUTRUN 2019
1993

■ This began life as a generic futuristic racer for the Mega Drive before the *OutRun* licence was slapped on it – and it shows. But as generic futuristic racers go it's not half bad, and ironically it's probably the best *OutRun* game available for the Mega Drive.

OUTRUNNERS
1993

■ The series returned to arcades with this underrated and overlooked entry developed by the AM1 division. It plays like a stepping stone between *Out Run* and *OutRun 2*, harking back to the original while introducing elements that would be carried forward to the sequel.

new, but its founders and most of its staff (which numbered less than 20 at the time) were all former employees of Gremlin Interactive which had closed down in 2003.

One of those ex-Gremlins was Steve Lycett, who was a producer on the conversion and also a huge Sega fan. "I still remember the day we found out we'd been asked to bring it to Xbox," he says. "I'd been tracking *OutRun 2* online since it was announced for the arcades so it was a dream come true to be part of such a legacy. I grew up in the era of arcades and Sega was a real innovator throughout that period. My holy trinity of arcade games is *Space Harrier*, *Out Run* and *After Burner*. Between Yu Suzuki and AM2, you just couldn't wait to see what they did next."

An obvious question is, "Why Sumo?" According to Phil Rankin, lead programmer of the Xbox version, it was simply a case of word of mouth. "We'd done some work for Codemasters, adding online multiplayer to a football game as I recall. Somehow this led to conversations with Microsoft and Sega that ultimately resulted in Sega awarding us the contract for *OutRun 2*. The first the development team knew about the project was when a van pulled up one day and delivered the arcade machine to our offices. As this was the first big project that Sumo had worked on, I think it's fair to say we were *quite excited*."

Despite the distraction of having the coin-op in the office, Phil and his fellow programmers began weighing up the task of converting the game to the Xbox. The hardware might have been alike but this was no simple porting job. "The main challenge was memory," says Phil. "The arcade board had double the memory of the Xbox, so we had to find a way of squeezing a game that already used every byte into half the space. This involved a lot of careful analysis of the levels of detail to understand what was important and what could be thrown away. Switching from a wheel to the Xbox controller

» [PC] An *OutRun* game without a Testarossa would be like a *Sonic The Hedgehog* game without Sonic.

» [Arcade] As in the original game, the left-hand stages offer an easier route to the finish.

» [Xbox] By completing all stage four missions in the Challenge mode you could access the tracks from *Daytona USA 2*

> "WE NEEDED TRACKS THAT ALLOWED THE USER TO DRIVE AND DRIFT, AND FROM THE AVAILABLE TITLES DAYTONA USA 2 AND SCUD RACE FIT THE BILL"
>
> **STEVE LYCETT**

was another challenge. AM2 had already started this work, but it was far from complete. We wanted to maintain the 'feel' of the arcade game while making it playable for everyone. You don't know how many variations on the control scheme we tried in order to get it *just right*.

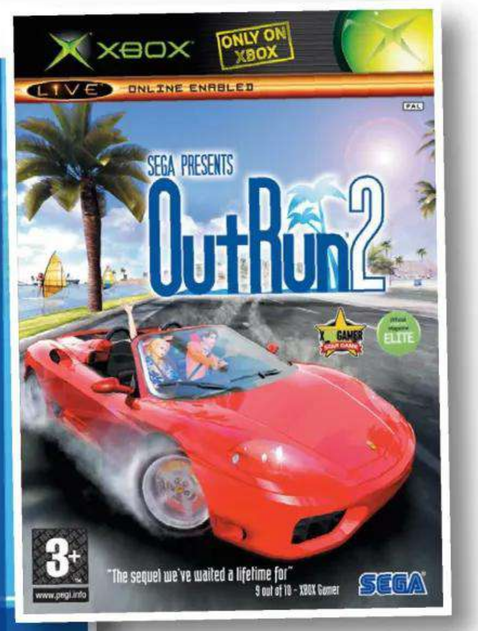
"Then there was the Xbox hard drive which was… quite slow," Phil says, coughing for effect. "We had to work out how to make those incredibly detailed levels load during the short time the player was driving through the 'bunki' [the connecting section between levels]. You will still occasionally get a situation where you reach the end of the bunki and the level hasn't finished loading. Finally, we decided to throw in a bunch of new missions and stages, and we had to do this while maintaining the whole *Out Run* vibe, and still fitting everything into memory and onto the disc."

Ah yes, the extras. In addition to the three main modes from the arcade game, the Xbox version included exclusive content that was designed by Sumo with input from Sega. "There were concerns that a straight arcade conversion at £40 would lead to negative reviews," says Steve. "This led to the inclusion of online play, the Challenge mode and the new courses." By completing the challenges, which were a mixture of Heart Attack missions and races, players could unlock cars (four new Ferraris joined the garage), music (11 additional tracks were added, including Euro remixes of the original arcade tunes by Richard Jacques – see Richard Jacques Q&A) and even a faithful version of the original *Out Run* arcade game.

Reversed versions of all 15 courses were also unlockable, but it was the bonus stages which wowed the crowd as they were taken from two Sega games which have otherwise never received a home version. "It was a suggestion from AM2 to include tracks from other AM2 games," reveals Steve. "We needed tracks ▶

» [Xbox] The unlockable *Out Run* arcade game featured the Testarossa, but changes were made to some of the traffic to avoid licensing issues.

» [Xbox] The Challenge mode features 101 missions, with the final one being a 30-stage endurance race against a rival.



» The conversion of the original *OutRun 2* was released exclusively on Microsoft's Xbox.

RICHARD JACQUES Q&A

THE AWARD-WINNING COMPOSER ON ARRANGING THE REMIXES OF THE ORIGINAL OUT RUN TUNES FOR THE XBOX VERSION OF OUTRUN 2

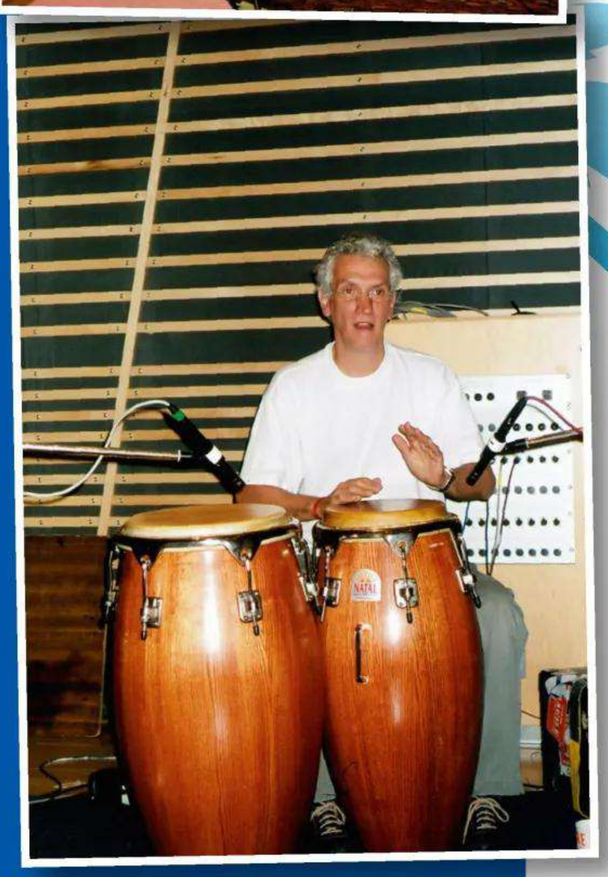
What's your opinion on Hiroshi Kawaguchi's original compositions for *Out Run*?
Hiro's music is outstanding and iconic. I remember the first time I heard it as a kid. I was on a summer course in North Devon and found myself in the local arcade one afternoon. This was the first time I had ever seen *Out Run*. The music was the first thing I noticed about the game – the quality of the sound board was so much better than anything I'd heard at the time. And the music itself, wow! Hiro completely nailed the music. It was perfect in every way.

What brief were you given for the 'Euro Remixes'?
I wasn't really given a specific brief, other than to put my own take on the original tracks. So I began by thinking about which musical direction I could take and what styles and influences would work with each track. I immediately thought that *Magical Sound Shower* and *Passing Breeze* would work well with live instruments, keeping the overall Latin/jazz style of the originals but filling out the arrangement, since I wasn't limited to the small number of channels that the original arcade sound board provided. *Splash Wave* is a much more up-tempo and energetic track and therefore I could hear something more electronic working for this track. I then got to work on fleshing out my initial ideas.

Who played instruments on the remixes?
I played most of the instruments but also used session musicians to add the brass section. We had trumpet, flugelhorn, trombone, alto and tenor saxes as well as a Latin percussionist who overdubbed all the percussion parts live. I also recorded all the piano parts live.

Did Sega offer any feedback on your updated versions?
I had submitted my demos before I went to the studio to record with the musicians and they were signed off straightaway, so I didn't have to make any changes which was fantastic. I then proceeded to go ahead and record the musicians and deliver the final mixes. Both Sega and Sumo Digital were delighted with the results, so job done!

Reviewers have called your remixes the "definite versions" of the original tracks. How pleased were you with the end results?
That's a wonderful compliment to hear. I have to say that nothing beats the original arcade versions but I was very honoured to have worked on the remixes and I had great fun in doing so – which I think comes through in the music. A personal highlight for me was being able to perform a medley of these versions live at the Royal Festival Hall during a Video Games Live show. A fun fact to finish on. I also remixed and recorded a version of *Last Wave* [the game over music]. Although Sega hadn't requested this, I thought it was a great opportunity to work on this remix as well, since it's another great track from the original. Sega and Sumo loved this remix so included it in the game.



» These photos, from Richard's personal collection, show him and the musicians recording the remixes at Olympic Studios in London.

THE CAR'S THE STAR

THE FAMOUS FERRARIS THAT ARE INTEGRAL TO THE SERIES

TESTAROSSA
1984

Ferrari's flagship Eighties car is perhaps its most famous model – and the one that Yu Suzuki chose for the starring role in his original *Out Run* (albeit without seeking a licence). The one in the game is a convertible variant which Ferrari never actually put into production.

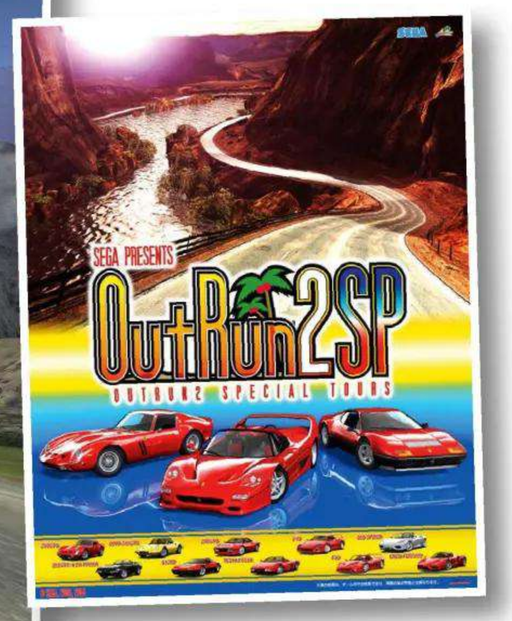
F40
1987

On release this was Ferrari's fastest-ever model, with the manufacturer asserting it was the *world's* fastest sports car. As the most exciting new car on the block, it was chosen as a replacement for the Testarossa in *Turbo OutRun*, again without a licence secured.

"THE ARCADE HAD DOUBLE THE MEMORY OF THE XBOX, BUT THE XBOX HAD DOUBLE THE MEMORY OF THE PS2, SO THE PS2 VERSION HAD TO BE A QUARTER OF THE SIZE OF THE ARCADE"

PETE ELLACOTT

» [PC] Despite being 20 years old, the epic draw distance in the game still manages to impress.



» *SP* introduced two new Ferraris, the 250 GTO and the 512 BB, flanking the F50 on the flyer here.

that allowed the user to drive and drift, and from the available titles *Daytona USA 2* and *Scud Race* fit the bill. We still had to make modifications for these tracks to loop and some tweaks to fit the *OutRun 2* drifting model, but I think a lot of Sega fans appreciated these additions."

With all the new content added and a release date of October 2004 finalised, the team received a hand from Sega producer Nobuyuki Minato to help get the game over the finish line. "I remember Minato-san flying over to the UK," says Phil, "and almost living in the office for a couple of weeks as we finalised everything from car handling to challenge difficulties. He was a star."

The game hit its release date but the *OutRun 2* journey was only just beginning for Sumo. The next stop was a version for the Japanese Xbox which received extra levels of scrutiny from Sega, according to Phil. "For the EU and US versions we reduced a lot of trackside detail, but for the Japanese version all that geometry had to go back in, or be argued about tree by tree, bush by bush!" These changes are most evident in the bonus stages which look closer to the coin-op versions in the Japanese release.

» [PC] *OutRun 2006* features two alternative courses: Palm Beach at dusk, seen here, and Sandy Beach at night.

Sega was not done with *OutRun 2* either. While Sumo was busy working on the Xbox conversion, AM2 was prepping an enhanced version for arcades entitled *OutRun 2 SP* (*Special Tours*). This was no mere lick of paint however. *SP* introduced 15 brand-new stages, all set in the Americas, in addition to the original's 15 European stages. Numerous changes were made to the gameplay too, with the main ones being the ability to slipsteam other vehicles for a speed boost, and the introduction of Rivals – fellow Ferrari drivers who joined you on the journey, rather like the Porsche-driving dude from *Turbo OutRun*. *SP* also adopted another feature of *Turbo OutRun* in the reintroduction of the 15-stage continuous route which did away with the forks in the road. This extended race was available for both the *SP* and original courses, although the more devious operators could choose to up-charge you an extra credit to participate. The final nod to the past was the addition of the original soundtracks from both *Out Run* and *Turbo OutRun*.

Probably the biggest change to *SP* was that it was easier than the original. The new courses were not necessarily tamer, but crashes were more forgiving and drifting felt like it was more 'on rails' than before. To compensate for expert drivers, livelier 'tuned' versions of each car were added to Time Attack mode. Talking of cars, two new Ferraris joined the original eight – the 250 GTO and the 512 BB. Both of these cars had already appeared in the Xbox version of *OutRun 2*, but that was the only new feature the two games shared. Phil confirms, "I don't remember us seeing anything of *SP* while we were developing the Xbox version. We knew it was happening, but it didn't directly influence anything we did."

OutRun 2 SP debuted in arcades in December 2004 and sported a racing yellow colour scheme as opposed to the original's Ferrari red. It was available as a standard sit-down type and a deluxe version based around a replica of the 360 Spider (it was still static mind, hydraulic cab fans). As before, up to four units could be linked together.

Following its successful conversion of the original game, Sumo was invited to work its magic on *SP*. This time however it would not be exclusive to the Xbox and would also appear on the PS2, PSP and PC. Pete

F50
1995

■ Developed to celebrate Ferrari's 50th anniversary, the successor to the F40 actually evolved from the Testarossa, making it the perfect vehicle to headline *OutRun 2* in 2003. The car was playable in the original arcade game, alongside seven other licensed Ferrari models.

360 SPIDER
2000

■ The successor to the F355 (the car which inspired Sega to create *F355 Challenge*), in its convertible guise, was chosen as the cover star of the Xbox version of *OutRun 2*. Its default colour in the game was silver, but you could switch it to Ferrari red if preferred.

SUPERAMERICA
2005

■ Based on the Ferrari 575 Maranello, this convertible grand tourer was the ideal model to feature on the cover of *OutRun 2006*, thanks to its *Coast 2 Coast* subtitle. The car was available alongside 14 other Ferraris – the biggest selection in any *OutRun* game.

» [PC] The rivals evoke memories of Mr Porsche from *Turbo OutRun* – but at least they don't try and steal your girl while screaming, "Take a hike, pal!"

» [PC] Drifts can be initiated by tapping the brake or dropping a gear and then turning hard into the corner.

» [PC] Slipstreaming other vehicles reduces drag and gives you a welcome speed boost.

Ellacott programmed the PS2 version and he remembers the sizeable challenge this presented. "The arcade hardware had double the memory of the retail Xbox, but the Xbox had double the memory of the PS2, so the PS2 version had to be a quarter of the size of the arcade. The Xbox GPU was nearly twice the speed of the PS2 GPU too. The audio was also a lot of work, simulating all the crazy multi-voice engine samples. It used something like 32 different engine samples at different RPMs that we blended as you accelerated and changed gear. Oh and all the code comments were in Japanese."

"I recall we got kicked off an early online translation tool for using it too much to translate all the comments into English," chips in Steve. And then there was the version for the PSP handheld. "This required us to write a custom engine and do a lot of optimisation," reveals Phil. "We had gained a lot of experience working with the PSP on both *TOCA Race Driver* and *Virtua Tennis: World Tour*, so this helped a lot when it came to optimising the renderer to squeeze every last drop of performance out of the machine that we could." The PSP version ran at 30fps, half that of the other versions, but it was still an extraordinary achievement. The PS2 version meanwhile was admirably close to the Xbox release, while the PC version was able to output the game at HD resolutions.

The game arrived in March 2006 and was titled *OutRun 2006: Coast 2 Coast*. It was the most generous release yet, featuring all 30 stages, 28 music tracks and 15 Ferraris. Each car was also available in a supercharged 'OutRun' class. "We developed the different liveries and add-ons for the tuned cars, working directly with Sega and Ferrari on those," reveals Steve. "That was one of those special moments in game development where you're literally working directly with real Ferrari designers and engineers to collaborate on making something authentic to the brand."

The extras were unlocked by completing missions in the main *Coast 2 Coast* mode, which was like a hyperactive spin on the original Xbox version's Challenge mode. What was missing this time though were the celebrated bonus stages from other AM2 games and the original *Out Run* coin-op. Mitigating, Steve explains, "We needed to make three sets of every track, one for Xbox, one further reduced for PS2, then an even further reduced version for PSP. We also added in reverse versions of the tracks that needed to be completely reworked. By the time we'd done all that, additional tracks were just not possible in time. Same with the 1986 arcade version." Sumo was allowed more time to produce the Japanese PS2 version which was retitled *OutRun 2 SP*. The earlier extras were still absent, but some missing goal animations were restored and Clarissa's outfit was a little more revealing, plus various other fixes and optimisations were made.

> "UNFORTUNATELY THE FERRARI LICENCE PROBABLY LIMITS THE SCOPE FOR ANY FUTURE VERSIONS"
>
> **PHIL RANKIN**

Shortly after the release of *OutRun 2006*, the game returned to arcades one final time. *OutRun 2 SP SDX* (*Super Deluxe*) was the game fully evolved into its 8m-wide final form, featuring four two-seater Ferraris that now moved as you played (there was also a two-car *DX* version). Each car included a pair of controls, inviting two players to share driving duties. The actual game content was the same as *SP*, with the only difference being that it was running on Sega's new PC-based Lindbergh hardware which outputted at a higher resolution.

Consoles also received a more defined version in 2009 in the form of *OutRun Online Arcade*. Running at 1080p on Xbox 360 and PS3, the game looked better than ever – but

TRANS-EUROPE: THE ORIGINAL STAGES

HERE'S OUR STAGE-BY-STAGE BREAKDOWN OF THE EUROPEAN LEG

START

PALM BEACH

■ As in the original *Out Run*, your journey begins on a sun-kissed coast under brilliant blue skies. This course provides a gentle introduction to the game as you wind through the resort, with the only challenge being the tricky chicane before the split.

SECOND COLUMN - A

DEEP LAKE

■ This fast, generally flat course spans the lake on a series of four-lane bridges. None of the corners are taxing which means you can take them flat out without drifting, although precise positioning is required to navigate the final left-hander.

SECOND COLUMN- B

ALPINE

■ We're up in the Alps so you can expect stunning views as you race up and over the range. Two curved tunnels carve a route into the side of the mountain and the first one is slightly sneaky, so ease off to avoid hitting the tunnel wall on the exit.

THIRD COLUMN - A

CASTLE WALL

■ The stronghold is an impressive sight but there's no nice straight avenue leading up to it. Instead the route weaves through the structure, ducking under bridges and taking in a series of sweeping S-bends where drifting is mandatory.

THIRD COLUMN - B

CONIFEROUS FOREST

■ Your drive through the tree-covered uplands is a dangerous one. Low branches obscure your view and tricky turns line the route. Why this challenging course appears so early on is a mystery. As least it's in the middle so you can avoid it.

THIRD COLUMN - C

DESERT

■ Unlike the barren desert course of the original game, this one takes place at the Pyramids Of Giza, and indeed sees you navigating a demanding double S-bend around the Great Pyramid itself. We'll still take it over Coniferous Forest.

FOURTH COLUMN - A

CLOUDY HIGHLAND

■ An appropriate title for sure. Clouds reduce visibility as the road scrapes the sky before dipping majestically down into the valley below. Drifting is not really necessary until you negotiate the S-bend as you climb back out of the valley.

FOURTH COLUMN - B

INDUSTRIAL COMPLEX

■ This ugly sprawl seems like a million miles from the beautiful surroundings of Palm Beach. On the plus side it's perhaps the fastest course in the game, with plenty of wide straights and easy drifting corners to really open up on.

FOURTH COLUMN - C

SNOWY MOUNTAIN

■ The route twists its way through an icy gorge. It's generally fine until you pass under the viaduct, at which point it twists up and around the mountainside. Another one to avoid if you're looking for a fast time to the finish line.

FOURTH COLUMN - D

GHOST FOREST

■ Another forest stage, and this one looks rather foreboding at first thanks to its gloomy look, but it's not too tricky. It's best to ease off and drive most of the course, drifting only for the sharp right-hander and S-bend right at the end.

FINAL COLUMN - A

TULIP GARDEN

■ The windmills dotted around the landscape suggest we're in the Netherlands and it's the setting for a nice drive to the Goal A finish. Apart from an erratic mid-section and a nasty chicane near the finish, this is a pleasant end to your journey.

FINAL COLUMN - B

METROPOLIS

■ Who doesn't love Paris by night? The road snakes through the city, veering to the right around the Eiffel Tower before passing Notre-Dame and entering a fast underpass which takes you to the Arc De Triomphe and Goal B.

FINAL COLUMN - C

ANCIENT RUINS

■ Sandstorms obscure your view as you approach an arid Goal C. It starts tamely but the difficulty ramps up as the road narrows through the canyon. Then it's one big drift as you slide left and right and left again to the finish.

FINAL COLUMN - D

IMPERIAL AVENUE

■ When in Rome you'll want to perform an epic right-hand drift around the Colosseum and then race through the ancient capital on a surprisingly straightforward path to Goal D, ending in St Peter's Square in front of the Basilica.

FINAL COLUMN - E

CAPE WAY

■ We're in Greece for the last leg of the journey, touring quaint coastal villages. As you'd expect this is the most challenging final stage, thanks to the demanding S-bends which lead you up the hillside to the Goal E finish at the top.

TRANS-AMERICA: THE SPECIAL TOURS

EXPLORING THE SP COURSES, FROM COAST TO GLORIOUS COAST

START
SUNNY BEACH

■ Very similar to its counterpart Palm Beach, both in setting and how it eases you into the game. You don't need to drift, but the wide coastal route with its sweeping turns provides ample opportunity to test out some sideways action.

SECOND COLUMN - A
BAY AREA

■ The stage begins with you crossing the Golden Gate Bridge – the perfect place to slipstream – then swings into a tricky uphill S-bend. Then it's a fast dash down the city's steep hills before a wide left-right turn leads to the checkpoint.

SECOND COLUMN - B
NATIONAL PARK

■ We're in Yosemite for a breezy drive through a tree-lined valley. The first left-hander can be taken at full speed with careful positioning, but the two S-bends towards the end of the stage provide a good test for your drifting skills.

THIRD COLUMN - A
WATERFALLS

■ With the rumble of Niagara Falls in your ears, head down towards the river taking care with the un-signposted left-hander. Then it's a sharp right-hander by the bridge and a dart towards the tunnel which curves deviously to the right.

THIRD COLUMN - B
BIG FOREST

■ While it looks similar this is, thankfully, no Coniferous Forest. You can drive through most of the stage without drifting, until you pass through the hollowed-out tree when you'll need to drift through a tight left-right corner to the finish.

THIRD COLUMN - C
CANYON

■ The Grand Canyon naturally provides the setting for one of the most epic stages on your journey. It's no leisure drive though. Ease off as you power up the hill then get ready for the drop which leads to a tricky S-bend at the bottom.

FOURTH COLUMN - A
LOST CITY

■ The route takes us high up into the misty mountains and it really is breathtaking. You're allowed to take in the views too as it's a straightforward course with very little drifting required (you'll only need it for the final three turns).

FOURTH COLUMN - B
CASINO TOWN

■ Vegas baby! Keep your eyes peeled for *Sonic The Hedgehog* signage as you tear down the strip, taking on a series of 90-degree bends (the road is wide, which helps). The course then loops around, requiring an epically long drift.

FOURTH COLUMN - C
ICE SCAPE

■ We're once again in Snowy Mountain territory for one of the most challenging *SP* stages. A gentle uphill climb following the oil pipeline is bookended by two twisting sections which require skillful drifting to avoid wiping out.

FOURTH COLUMN - D
JUNGLE

■ This stage is on the hard route with good reason, as it snakes through a hazy rain forest on a road that is often lined with huge boulders. It's fine until you pass beneath the waterfall, then you're in S-bend city right to the end.

FINAL COLUMN - A
GIANT STATUES

■ Monolithic Moai statues stare on as you tour Easter Island on your way to Goal A. The road is five-lanes wide for the most part, making for an easy finish – just watch out for the final S-bend which has a sting in its tail.

FINAL COLUMN - B
LEGEND

■ Goal B lies on the other side of a Mayan city and you even get to race through an ancient temple (UNESCO be damned). This is the fastest, easiest end stage in *SP*, with the only testing element being the penultimate corner.

FINAL COLUMN - C
FLORAL VILLAGE

■ Green fields and rolling hills dominate the landscape on the route to Goal C. After drifting through the initial left-hander you can drive through the rest of the stage, until you reach the lake and encounter some dangerous bends.

FINAL COLUMN - D
MILKY WAY

■ Arrive at Goal D in time to see the Space Shuttle take off from Cape Canaveral. This stage is horrible, featuring many nasty bends flanked by yellow crash barriers that seem to invite you in. Master this and you've mastered the game!

FINAL COLUMN - E
SKYSCRAPERS

■ New York City welcomes you as you race over the Brooklyn Bridge, past the Empire State Building and end in front of the Statue Of Liberty. Some of the bends in the Midtown area are quite tricky, but otherwise this is a fun slide through the city.

» [PC] *Out Run* meets *Asteroids* in one of the Coast 2 Coast missions.

» [PC] In *SP* you can drive all 15 stages in sequence, on both the original and *SP* routes.

» [PC] Can you overtake 98 rival racers over 15 stages? Coast 2 Coast mode lays down the challenge.

content-wise it was limited, featuring just the *SP* tracks and no extras. Steve reveals that Sumo's hands were tied as it was released as a digital download. "At the time we had to work within size limitations. Xbox Live Arcade games had to be able to be downloaded and installed onto memory units for players who didn't have a hard drive. That restricted the overall size of the game and so the choice was made to only include the *SP* tracks. We always had the intention to either do a version with the original tracks – or do them as DLC. But by that point we were pretty stacked with other projects."

Regardless, *OutRun Online Arcade* was a blast played in full HD, but it wouldn't last due to Sega losing the Ferrari licence. As a result it was removed from PSN in 2010 and XBLA in 2011, plus the PC version of *OutRun 2006* was dropped from Steam around the same time. "Unfortunately the Ferrari licence probably limits the scope for any future versions," says Phil, when asked about what's next for *OutRun 2*. "Having said that, I would bite your hand off to work on a remastered version. Someone make it happen, please." Steve adds, "I have tried and will continue to try to encourage someone to let us make another *OutRun* game. We are all big fans and we'd love to do another one day."

A new *OutRun 2* collection may well happen at some point, especially as Sega recently announced plans to leverage more of its iconic properties. And dare we dream about *OutRun 3*? But for now, thanks to Sumo's efforts, we can still enjoy *OutRun 2* at home.

» The four-player *OutRun 2 SP* deluxe is a massively popular attraction at Arcade Club's Bury venue.

> "THE WORK BEING DONE BY FANS IS INCREDIBLE... IT SHOWS THE STRENGTH OF LOVE FOR THE GAMES"
> STEVE LYCETT

Both games can be played on the Xbox 360 via backwards compatibility (but alas, not the new Xboxes), and the PC version of *OutRun 2006* runs brilliantly on even the most basic setup. And for those with more modern PCs there's FXT, a remarkable mod by Howard Casto designed to enhance the PC version and make it as arcade accurate as possible. "The work being done by fans is incredible," says Steve. "I've been keeping an eye on community efforts to update the PC version to take advantage of modern hardware, restore some elements we couldn't include in time and support force-feedback wheels. Equally, you can now run the PSP version in VR via emulation – and look around as you play. I think it shows the strength of love for the games. And it shows there is a desire to see more."

Of course, for the true *OutRun 2* experience you need to play the coin-op and it remains a mainstay in many arcades (typically upgraded to the *SP* version). In specialist venues you may even find larger installations. The UK's Arcade Club has a four-player *SP* deluxe at its Bury location and a two-player *SP DX* (soon to be four-player *SP SDX*!) at Leeds. So there are still opportunities to play, enjoy and challenge others on the coin-op. "There's a good chance you'll find I've left a Time Attack high score if you use my preferred car the 512 BB in any arcades near Sheffield," says Steve, smiling. "I also used to have a record on the online leaderboards you could send scores to – 'til I mentioned that and a bunch of fans recorded better times to knock me out of the top ten!"

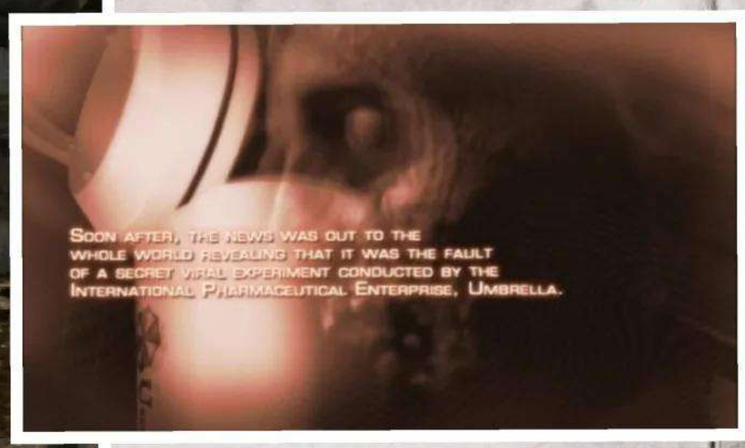
Twenty years on from its debut, *OutRun 2* and Sega's beautiful journey are still in arcades, in our homes, in our hands and in our hearts. ✱

THE IMPACT OF RESIDENT EVIL 4

WHILE THERE HAD BEEN A HANDFUL OF INNOVATIONS DURING ITS FIRST THREE CRITICALLY ACCLAIMED GAMES, THE CORE GAMEPLAY OF THE MAIN RESIDENT EVIL SERIES HAD REMAINED BROADLY THE SAME BY THE TURN OF THE CENTURY. AS THE NEW MILLENNIUM DAWNED, IT WAS TIME FOR A SIGNIFICANT CHANGE THAT WOULD COME TO REDEFINE THE SERIES FOREVER

WORDS BY GRAEME MASON

» [GameCube] This relentless, chainsaw-wielding man (also known as Dr Salvador) is an early highlight, pursuing Leon throughout the village.

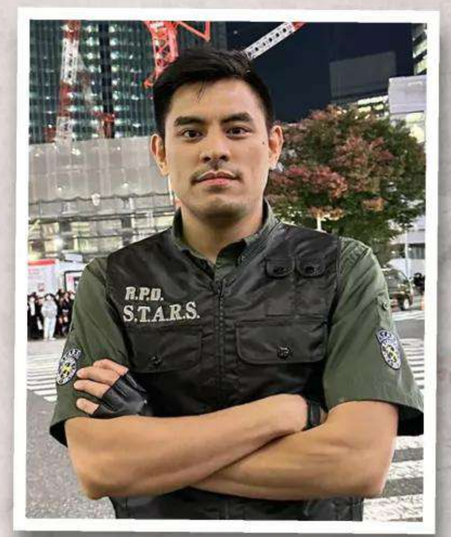

SOON AFTER, THE NEWS WAS OUT TO THE WHOLE WORLD REVEALING THAT IT WAS THE FAULT OF A SECRET VIRAL EXPERIMENT CONDUCTED BY THE INTERNATIONAL PHARMACEUTICAL ENTERPRISE, UMBRELLA.

» [GameCube] *Resident Evil 4*'s intro briefly recaps the events of the earlier games.

» [GameCube] *Resident Evil 4* establishes its cinematic pretensions early as Leon is escorted into the woods by two apathetic local cops.

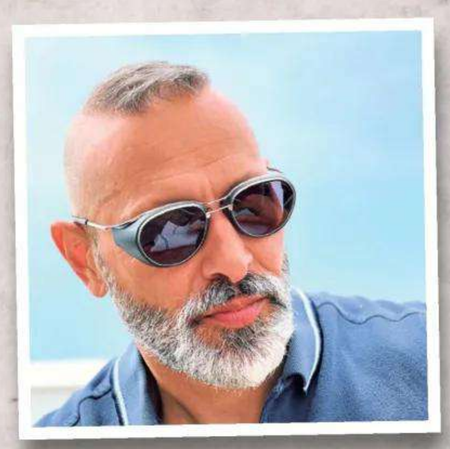
ALEX MOORE

» Firesprite's *The Persistence* takes certain qualities from *Resident Evil 4* and Alex was its lead designer.



ALEX ANIEL

» The author of *Itchy, Tasty: An Unofficial History Of Resident Evil* is a huge fan of *Resident Evil 4*.



CHUCK BEAVER

» *Dead Space*'s similarities to *Resident Evil 4* aren't just coincidental, as Chuck Beaver explains to us.

Whether you're a fan of the series or not, there's undoubtedly no argument that *Resident Evil* helped redefine videogames in the mid-Nineties and propelled the Sony PlayStation into a more mature demographic. Open and tense locations, limited ammunition, a mysterious corporation, oblique puzzles and, of course, those shambling undead corpses all contributed massively to a successful regeneration of the survival horror genre. And back in 1996, we didn't seem to mind the tank controls and those painful door animations. This was a frightening experience like no other. "I remember walking into a lot of walls!" smiles Alex Moore, designer on Firesprite's brutal VR survival horror game, *The Persistence*. "The controls and camera suited the game at the time, but they were a high skill floor for players to learn."

"THE CONTROLS AND CAMERA SUITED THE GAME AT THE TIME, BUT THEY WERE A HIGH SKILL FLOOR FOR PLAYERS TO LEARN"
ALEX MOORE

While it retained the tank controls and pre-rendered backdrops, *Resident Evil 3: Nemesis* included a few nods to a new direction. Much of the original game's anxious skulking of tight corridors was gone, as was the laborious trudging across the map to find a specific item. Instead, we got the mutated Nemesis, stalking Jill Valentine with a rough gargled exhortation of "STARS" as the series took a notable move towards action-based gameplay. Then, with further advances arriving with the Sega Dreamcast game *Resident Evil – Code: Veronica* in 2000, Capcom's decision to publish a remake of the original game on the Nintendo GameCube pointed the way to a new beginning.

"Looking at *Resident Evil* now, I think it's earned its place in gaming history," says Alex Aniel, author of *Itchy, Tasty: The Unofficial History Of Resident Evil*. "But it was superseded by the legendary GameCube remake."

Yet despite its status today, the GameCube remake of *Resident Evil*, and its companion, *Resident Evil Zero*, were disappointing sellers for Capcom, the exclusivity to the Nintendo console harming it in the face of the incredible success of the PlayStation 2. As Alex Aniel notes in *Itchy, Tasty*, "It is likely that there would have been a drop, albeit smaller, on PlayStation 2 as well. By the time *Resident Evil Zero* was released, ▶

» [GameCube] Leon keeps in contact with his base via this hi-tech radio – until it gets jacked by Ramón Salazar and Los Illuminados' leader Osmund Saddler.

» [GameCube] Leon Kennedy's tale of terror and horror begins in this small, lonely farmhouse.

there were already various discussions in progress about the viability of the old *Resident Evil* gameplay formula, which had not evolved dramatically since 1996." With *Grand Theft Auto*, *Halo* and Capcom's *Devil May Cry* all changing the gaming landscape in their own way, the *Resident Evil* series was starting to look quaint and old-fashioned in comparison. *Devil May Cry* had actually begun life as *Resident Evil 4* before Capcom changed tack, feeling that the game had strayed too far away from the *Resident Evil* formula.

Starting afresh in 2001, *Resident Evil 4* formed part of The Capcom Five, a quintet of games announced for the console on 14 November 2002. Undeterred by the relatively poor performance of the remake and *Zero*, the plan was to release all five games exclusively on the Nintendo GameCube. There are significant indicators in *Resident Evil 4*'s 80-second trailer here that this would be something quite different from the previous games. The flowing locks of a youthful Leon Kennedy take centre stage as he paces through dynamic dark corridors, stalked by a smoky black presence. The constantly shifting backgrounds and a camera diligently floating behind Leon betrays a new direction for the series. Despite several technical and story-related issues – a trailer from 2003 with Leon encountering a terrifying figure armed with a hook, was ultimately scrapped due to the GameCube's limitations – *Resident Evil 4*'s (almost) final version was ready to stun the world in 2004.

The scene was Capcom's Gamers' Day event in Las Vegas on the 28 January. *Resident Evil 4*'s previous two trailers had revealed a new direction and an adherence to the old-school horror tropes for which the series had become famed. Now, all expectations were shattered as Capcom displayed its latest trailer and a playable demo.

It was a dramatic new face for survival horror. Former Raccoon Police Department officer Leon Kennedy is now part of a government task force assigned to eliminate the threat of the nefarious corporation, Umbrella. With most of its agents under investigation, Leon is dispatched to Spain to investigate the kidnapping of the president's daughter, Ashley Graham. The 2004 trailer begins with the agent pacing cautiously through a dark rural area, gun ready in anticipation of trouble. Lightning arcs downwards, lighting the scene; it is the dingy village from the finished game's opening. Villagers menace Leon as the captions tease an apocalyptic scenario and boast that, "New camera angles put you right in the

THE EVOLUTION OF

DIE HARD IN A VILLAGE

■ While some lamented the loss of the slow-burn gameplay and endless trudging around of *Resident Evil*, the new fast-paced action of *Resident Evil 4* helped cement its legendary status. Enemies constantly assault Leon with thrilling cutscenes amplifying the action further.

A BRAND-NEW VIEWPOINT

■ Looking back, it's a wonder that the over-the-shoulder camera hadn't been popularised before *Resident Evil 4*. Offering a clearer view of the player's surroundings and superior immersion, it revolutionised third-person games more than anything else in the Capcom series.

DECISIONS, DECISIONS

■ Although critical decisions were included in *Resident Evil 3*, they never really had the impact of those present in the next game. Free the dog from the trap; take an easy or hard path; hide Ashley or keep her close – *Resident Evil 4* constantly asks these important questions.

» [GameCube] Leon and ex-Los Illuminados biologist Luis prepare to defend against an onslaught of Ganado.

HORROR HAS A NEW FORM

RESI 4'S VIRTUAL REALITY MAKEOVER

If you need further proof of *Resident Evil 4*'s brilliance you should really consider experiencing it in VR. Boasting a brand-new first-person perspective and developed exclusively for Oculus Quest 2, *Resi 4 VR* is mind-blowingly good fun and not only transforms the original game's many fantastic setpieces thanks to the new first-person viewpoint, but often transcends them due to the deep immersion that VR offers.

Being surrounded by villagers while being chased by Dr Salvador is even more frightening when you can see your enemies all around you, while the added scale that VR offers means that many of the boss encounters become truly transformative affairs. And don't go thinking this is just some cutdown version of the game, as Armature Studio has delivered the full adventure with only Assignment Ada and a few of the more problematic conversations with Ashley being cut out. Armature even added The Mercenaries as a free update, so there's plenty to keep you busy once the main quest is completed.

While it has to make a few concessions here and there to suit the new first-person viewpoint, Armature's slavish attention to the source material and excellent comfort options ensure that *Resident Evil 4 VR* is an absolute triumph and something that no self-respecting fan of the series should miss.

action." Real-time actions are presented with a cinematic sheen as Leon jumps theatrically from a window and over fences; giant boss monsters appear, menacing the hero as he optimistically plugs away with his handgun. The camera sits behind Leon all the time, following his movements as the antagonists, a world away from lumbering zombies, dodge and attack. As the trailer succinctly claims, it will be, "One hell of an intense story."

Resident Evil 4 formed one half of a dual-cover release of the March 2004 issue of *Game Informer* magazine, the subtitle screaming "The shocking new face of survival horror". "[When] the news broke in *Game Informer*, I was stunned, to say the least," remembers Alex Aniel. "[It was] a complete 180-degrees on a formula that had been in place for close to a decade at that point. We all knew *Resident Evil 4* would be something different and fresh – but we were expecting that in a horror context, not an action one." Gone was the haunted castle, hallucinations, zombies and ominous black smoke of the previous trailers. Instead, the most human-like enemies of the *Resident Evil* franchise to ▶

> "WE ALL KNEW RESIDENT EVIL 4 WOULD BE SOMETHING DIFFERENT AND FRESH BUT WE WERE EXPECTING THAT IN A HORROR CONTEXT, NOT AN ACTION ONE"
> **ALEX ANIEL**

RESIDENT EVIL 4

FEW ESTABLISHED FRANCHISES HAVE ENJOYED AS SIGNIFICANT A CHANGE AS THOSE IN RESIDENT EVIL 4

PRESS THE RIGHT BUTTON OR DIE

■ The QTE, a staple of Noughties gaming, continues to polarise gamers to this day. Essentially a method of involving the player in story-focussed cutscenes, *Resident Evil 4* ramps up these button-mashing commands, culminating in a tense face-off with evil mercenary Jack Krauser.

EXHILARATING SETPIECES

■ From that very first building where Leon can acrobatically jump out of its first-floor window, *Resident Evil 4* provides stirring little asides. Whether Leon is pushing down enemy-laden ladders, jumping from roofs or kicking in doors, excitement is never far away in this game.

PRECISION AIMING

■ Free from the fixed camera and vague shooting mechanics of the original games, *Resident Evil 4* introduces innovative precision aiming with a laser sight, perfectly showing the player where they are aiming. A version of this appears in many third-person shooters today.

OW! THAT'S MY KNEE!

■ A corollary of precise aiming is the ability to target an enemy's specific body parts. For example, headshots do significantly more damage, while shooting a Ganado's leg has them hopping around in agony. Other games had done this, but none quite as gloriously as *Resident Evil 4*.

CONVERSION CAPERS

RETRO GAMER TAKES A FEARFUL PEEK AT ALL THE MAIN VERSIONS OF RESIDENT EVIL 4

GAMECUBE

■ With reported sales of over 1.5 million, comfortably eclipsing the 2002 *Resident Evil* remake and *Zero*, *Resident Evil 4* remains one of the GameCube's biggest third-party games. It also helped banish Nintendo's reputation for a younger demographic and tested the console to its limits. The unlockables, Assignment Ada and The Mercenaries complete an excellent package.

PLAYSTATION 2

■ As with the GameCube original from a few months earlier, Capcom pushed the Sony console to its limits, making a few minor sacrifices to maintain the game's impressive framerate. By far, the biggest bonus for owners of the PlayStation 2 was Separate Ways, an expanded mission with the mysterious Ada Wong. Oh, and no disc swapping.

PC

■ Released, somewhat apologetically, two years after the original GameCube game, the PC version of *Resident Evil 4* at least includes all the bonus items from the PlayStation 2 game. Otherwise, the most significant addition is a new Easy skill level and good support for widescreen resolutions, with publication taken care of by Ubisoft outside of Japan.

WII

■ Capcom adapted its hit game to the latest Nintendo console in 2007, incorporating controller point aiming and a slash attack with Leon's knife, vastly improving the rather clumsy original control method. This version also includes the extras from the PlayStation 2 game and is acknowledged by many fans as the definitive version of the Capcom classic.

XBOX 360/PLAYSTATION 3

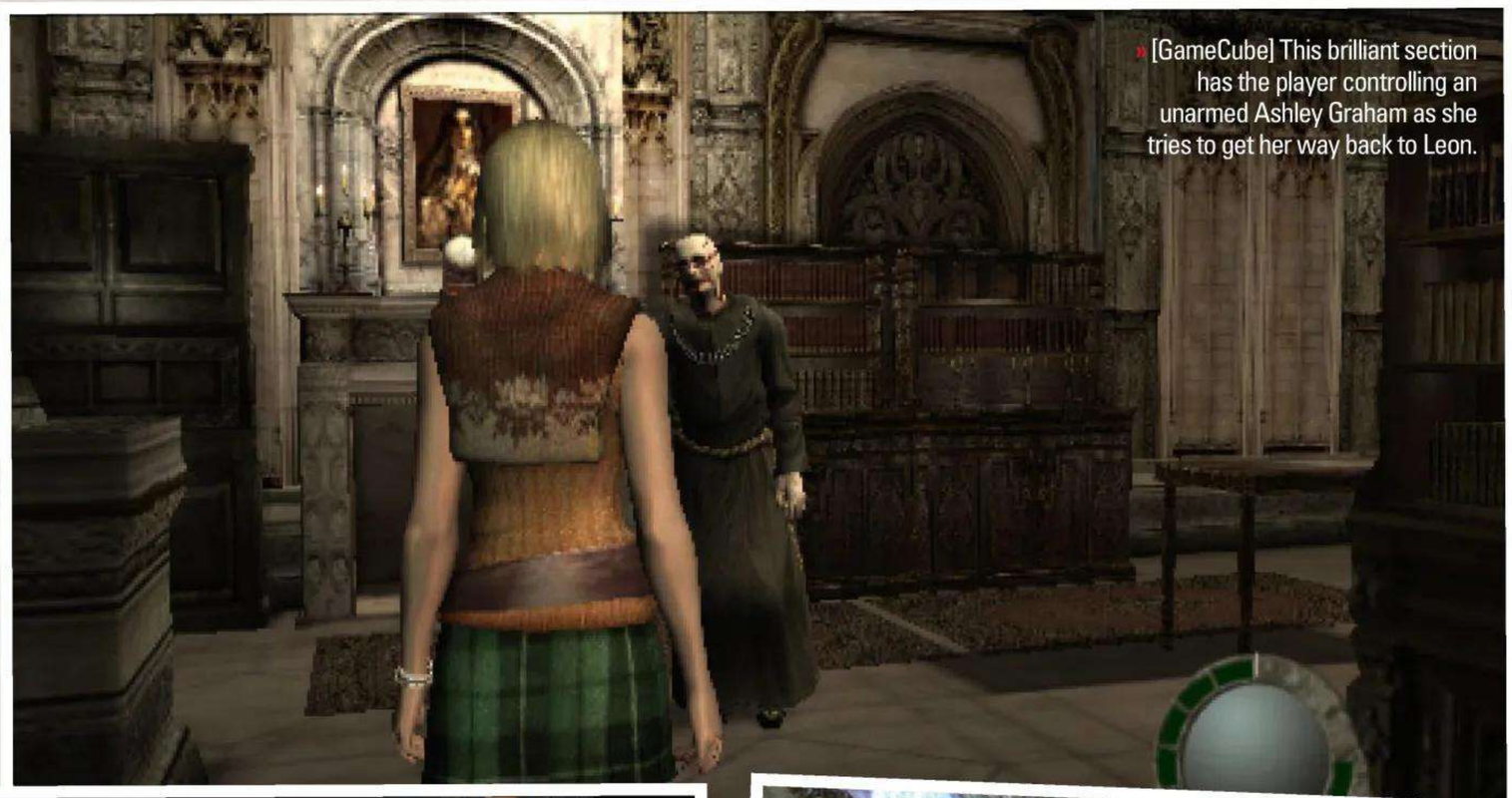
■ A new decade brought another version of *Resident Evil 4*, this time remastered into HD for the PC and seventh generation of consoles. While the move into high definition successfully smooths out *Resident Evil 4*'s visuals, there's nothing new beyond the extras from the Nintendo Wii version and a cursory 12 achievements for gamers to collect.

XBOX ONE/PLAYSTATION 4

■ The insatiable appetite for *Resident Evil* continued onto the Xbox One and PS4, stoked by anticipation for the incoming seventh instalment. Exhibiting all of the brilliant gameplay that has made the game so loved, this is, in truth, an underwhelming release in terms of actual improvement in-game, albeit in a swift 60fps and 1080p resolution.

NINTENDO SWITCH

■ The motion controls of the earlier Wii game are absent for this Switch version, and once more, this updated *Resident Evil 4* feels like a bit of a missed opportunity. However, the ability to use a classic GameCube controller is rather apt, and it's great that you can play it on the move. Like its peers it's another solid port but it could have been so much better.



» [GameCube] This brilliant section has the player controlling an unarmed Ashley Graham as she tries to get her way back to Leon.

» [GameCube] The mysterious Ada Wong shoots the breeze with uber-mercenary Jack Krauser.

» [GameCube] The Merchant is a new character Leon meets in *Resi 4*. He's found in unusual places and always has the best gear to buy.

date are hunting down Leon: rustic villagers armed with pitchforks, sickles and knives, and given a voice, a guttural Spanish brogue laced with hostile intonation. Of equal shock was Capcom's announcement early in November 2004. "It looks like the folks at Capcom Entertainment were only kidding," chimed IGN, "when they sternly insisted over and over again that the GameCube action thriller *Resident Evil 4* would forever remain exclusive to Nintendo's console." Excitement and pressure from fans and (apparently) shareholders had taken its toll: *Resident Evil 4* would be coming to the Sony PlayStation 2, albeit some months after its GameCube release. Even though the game became a massive hit on the Nintendo console, selling over 1.5 million units, the Sony PlayStation 2 version enabled a whole new legion of fans to enjoy the game, starting with that famous village location.

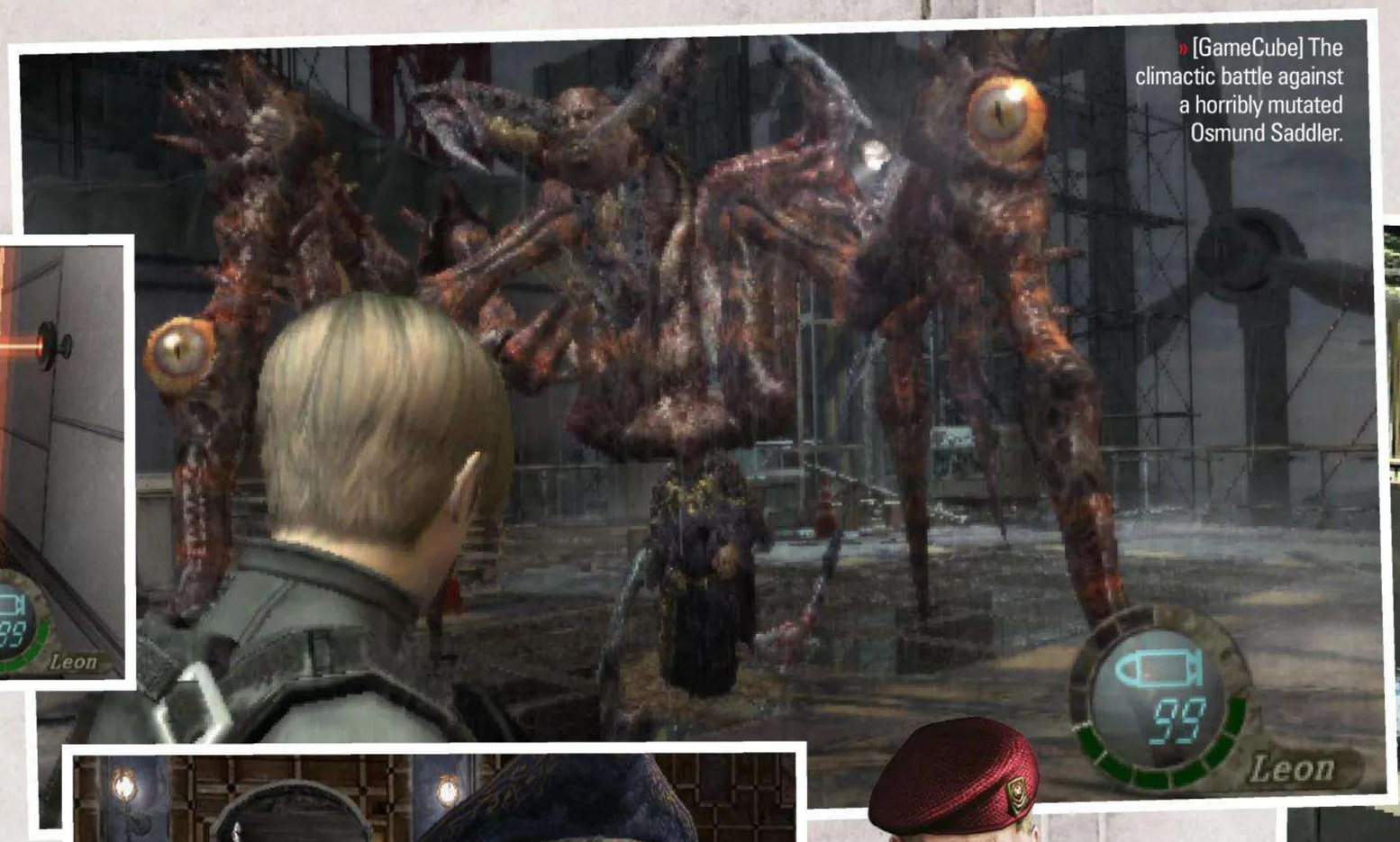
The village forms the rapidly beating heart of *Resident Evil 4*'s opening. Sent to a remote Spanish region to locate Ashley Graham, Leon soon finds himself surrounded by its citizens, acolytes of Los Illuminados, the mysterious cult led by Osmund Saddler that has captured the president's daughter. The villagers are infected with Las Plagas ('the pests'), and after a token effort by Leon to question one of them, they turn on the agent in a momentous early scene led by the chainsaw-wielding Dr Salvador. Chuck Beaver was co-designer for the 2008 sci-fi horror *Dead Space*, and he cites the opening village encounter as his favourite scene in the game. "That was great design – in fact, I think that whole opening town zombie rush is pretty epic – talk about feeling in the moment." The village serves as the perfect primer to the horrors ahead of the player and the new gameplay style in *Resident Evil 4*, a claustrophobic nightmare as the Ganado ('cattle') relentlessly pursue Leon, led by the near-invulnerable Dr Salvador. With ammunition scarce at this early stage, the player must frantically explore the buildings in search of weapons, ammunition and health items, clambering over roofs, crashing through windows and kicking down ladders to avoid the pursuing mob. "I remember being wowed by the intensity of that scene and the enemies coming from all directions," recalls Alex Aniel. "With *Resident Evil* games being fixed-camera affairs up until that point, the level of immersion was a new experience." The fast-paced, action-movie ambiance of this early scene continues throughout *Resident Evil 4* as enemies hurl themselves in their droves at Leon, the brief moments of respite precisely positioned to give the player some much-needed breathing space. "My first experience [playing] *Resident Evil 4* was the demo disc included in a one-off special of *Famitsu* [magazine]," continues Alex. "That sold me on the new formula – it was unlike anything I had ever tried up until that point, and easily the most visually beautiful 3D game I had laid eyes on. I knew then that Capcom had a hit on its hands."

> "THE EXPLODING HEAD WITH A WHIPPING PARASITE WAS DEFINITELY AN INSPIRATION FOR SOME OF OUR EARLY NECROMORPH CONCEPTS"
> **CHUCK BEAVER**

Having shaken off the shackles of its antiquated gameplay, *Resident Evil* began gathering new fans, intrigued by the mix of horror and action. The centrepiece of this fresh approach, at least initially, is the novel viewpoint, the game's camera constantly sitting behind and to the protagonist's right, shifting to a sharper, more- focussed view when Leon aims his weapon. "I was aware of that type of camera angle – but not to the extent that *Resident Evil 4* took it," says Alex Moore. "It felt very new, fresh and much more cinematic." The constant flow of action setpieces means that, even during the many cutscenes, there's no rest for the player as the Ganado push boulders at Leon or a QuickTime Event boss battle unexpectedly crops up. The persistence with tank controls (rather than, for example, the ultra-fluid movement of *Devil May Cry*'s Dante) also works in the game's favour, helping to make each encounter a frantic battle against the onrushing Ganado. "It was very engaging to swing through the core loops of combat and then out to cutscenes," recalls Chuck Beaver. "And then back into those foreboding settings, exploring with those tank controls!" The early *Dead Space* prototypes had lovingly recreated *Resident Evil 4*'s control method – but this was one influence that didn't last. "Back in those days, when the [EA Redwood Shores] team was tiny, I was in charge of focus testing," says Chuck. "*Gears Of War* and *Halo* had become cultural touchstones by then – all the focus

» [GameCube] Leon makes a nonchalant attempt to see if this gentleman knows of Ashley's whereabouts. Unfortunately, he doesn't look interested.

» [GameCube] It wouldn't be *Resident Evil* without deadly lasers to contend with.



» [GameCube] The climactic battle against a horribly mutated Osmund Saddler.

► tests clearly voted down the now-outdated controls as too sluggish, despite being horror genre standard." Nevertheless, *Resident Evil*'s continued use of the rotational control method perfectly suits its gameplay, although it will be interesting to see how the remake adapts this for a contemporary audience.

Despite the move away from tank controls, *Dead Space* continued to be highly influenced by the Capcom game, often called '*Resident Evil 4* in space' during early development. As a *Resident Evil* virgin, the new camera angle did not faze Chuck Beaver. "I was genuinely surprised at how engrossing and fun it was, and didn't realise how well they had perfected the atmosphere and vibe. At the time, each wave of new game releases seemed to bring a huge leap in resolution, and it was fun to enjoy that wave." Released in widescreen format – back when it was not common – a colossal number of *Resident Evil 4*'s elements made it into *Dead Space*, not least its seemingly invincible monsters, the Regenerators. "Ha, yes, those for sure," laughs Chuck when we ask him about *Resident Evil 4*'s effect on *Dead Space*. "And the little red dot as the targeting reticule, holding a button to aim, the abandoned tank controls and over-the-shoulder third-person orientation. So many of the basics of combat, control and, of course, the enemies. The exploding head with a whipping parasite was definitely an inspiration for some of our early Necromorph concepts – especially those with a body-horror angle."

"IT WAS VERY BRAVE TO MAKE THE SHOOTING STATIC"
ALEX MOORE

For gamers brought up on *Resident Evil* and its frustratingly imprecise aiming, that red line and dot (which increased in size when an enemy was in Leon's sights) was a blessing, helping Leon target vulnerable locations – in other words, the head – and with this came *Resident Evil 4*'s glorious wound animations. While Rare's *GoldenEye* and the PC game *Soldier Of Fortune* had already notably done body-part-specific damage and the subsequent AI reaction, it was *Resident Evil 4* that truly popularised the process. Shoot a Ganado in their leg and they clutch the limb in agony before Las Plagas overpowers the pain and the villager continues their attack. And, naturally, headshots come to the fore, enemy bonces exploding in a mass of gore, sometimes a bladed Las Plagas sprouting from their open necks and resuming the assault on Leon. The agent's inability to move and shoot at the same time also increases the game's tension. "My first reaction to *Resident Evil 4* was, 'How do I shoot?' followed by, 'Why can't I move and shoot?' followed by, 'Oooooh!'" recalls Alex Moore. "I instantly clicked with the game far more than I'd ever done with earlier entries." *Resident Evil 4*'s shooting, naturally a significant part of the game, had been perfected, accentuating its move to a more action-based

RE4 TIMELINE

SUMMER 1998
- Following the success of *Resident Evil 2*, Capcom's Shinji Mikami concludes that the series needs a new direction.

WINTER 1998
- A few months later, development begins on *Resident Evil 3* for Sony's incoming PlayStation 2 console.

JANUARY 1999
- Capcom repurposes off-shoot *Resident Evil 1.9* into *Resident Evil 3: Nemesis*. *Resident Evil 3* becomes *Resident Evil 4*.

DECEMBER 1999
- Capcom officially confirms *Resident Evil 4* will be released on the PlayStation 2 at some point in the future.

SUMMER 2000
- With its gameplay veering away from Resi, Capcom shifts the development of *Resi 4* to a new IP, *Devil May Cry*.

REMAKING RESI 4

THAT TRICKY FOURTH REMAKE

Capcom's latest remake, following on from the hugely popular *Resident Evil 2* (2019) and *Resident Evil 3* (2020), was a smash hit and received critical acclaim on its release in March 2023. Originally announced in June of 2022 at Sony's State Of Play exhibition, *Resident Evil 4* updates the game to the modern day while retaining the core principles that made the original such a hit back in 2005. The fourth game in the series perhaps represents the greatest challenge to the Capcom team – the original game has considerably more in common with gaming today and is viewed as perfect in the eyes of many fans, most of us at **Retro Gamer** included. Nevertheless, this remake of *Resident Evil 4* eliminates some of the issues that divided gamers 18 years ago. QuickTime Events (QTEs) have been massively scaled back, and the escort sections involving the president's daughter, Ashley Graham, are nowhere near as frustrating as in the original version. Leon is now a lot more mobile that he was in his first adventure, while his knife plays a bigger role this time around and he's able to parry with it (it won't last forever though, so you'll need to regularly fix it). While it does follow the plot of the original game quite closely, certain events have been changed, while some locations have been expanded or deleted entirely. As a result, Capcom's remake of *Resident Evil 4* is a game that will keep newcomers, as well as veteran players, on their toes. If you love the original you certainly won't be disappointed with Capcom's slick remaster. It's everything we were hoping it would be.

template. "It was very brave to make the shooting static," continues Alex. "But it just fits perfectly with the game and adds a depth to the gameplay that, until that point, shooters hadn't really had." Even better, shooting an enemy can stagger them. Leon can take advantage of this if he is close enough, delivering a swift and powerful kick to his opponent's head via another cinematic tangent. These little asides and filmic interludes pepper *Resident Evil 4*: villagers push a giant boulder after Leon; ancient suits of armour crash towards Ashley; a mysterious alien-like creature stabs at Leon with its tail; and then there are the bosses.

» [GameCube] Leon and Ashley can remove Las Plagas from their bodies late in the game.

From bizarre bosses such as *Resident Evil*'s Plant 42 to the unstoppable (well, almost) hulking Tyrant Nemesis in *Resident Evil 3*, this is a series that has always revelled in its fights against rampaging, mutated super enemies. The variety of these disgusting and horrible creatures has motivated a whole generation of horror game designers, and not just those behind *Dead Space*'s regenerating Necromorph. Says *The Persistence*'s Alex Moore, "We were set on having different-sized enemies from the start, and a lot of that ▶

AUGUST 2001

■ The PlayStation 2 game that was supposed to be *Resident Evil 4, Devil May Cry*, is released to universal praise.

MARCH 2002

■ Capcom's Production Studio 4 releases the astonishingly good remake of *Resident Evil* for the GameCube.

NOVEMBER 2002

■ *Resident Evil Zero*, is released to a generally positive reception. Sales are solid but below Capcom's expectations.

NOVEMBER 2002

■ Capcom officially reveals *Resident Evil 4* for the first time, now as one of five proposed GameCube exclusives.

MAY 2003

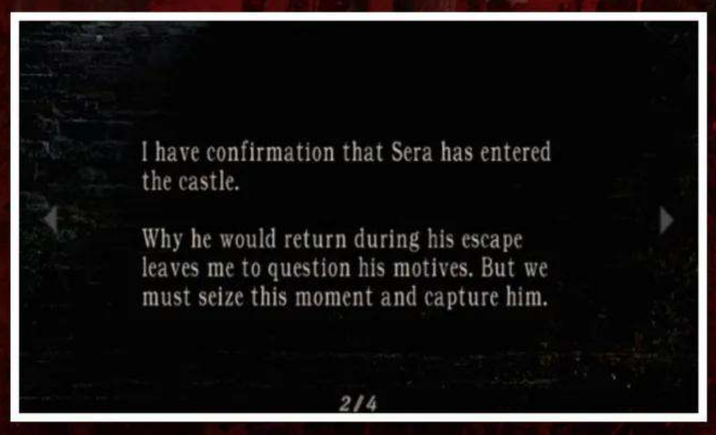
■ Capcom officially reveals its 'Hook Man' or 'Hallucination' build of *Resident Evil 4* at this year's E3.

SUMMER 2003

■ Dissatisfied with its direction, Shinji Mikami takes over directorial duties. A new build of *Resident Evil 4* begins.

SOME THINGS NEVER CHANGE

DESPITE THE NEW DIRECTION FOR RESIDENT EVIL DURING ITS FOURTH MAIN INSTALMENT, SOME THINGS REMAIN REASSURINGLY FAMILIAR


I have confirmation that Sera has entered the castle.
Why he would return during his escape leaves me to question his motives. But we must seize this moment and capture him.
2/4

PLENTY TO READ

■ Throughout *Resi 4*, Leon discovers documents and memos left lying around by Saddler and his cohorts. Eventually, these reveal the hideous plans that the Los Illuminados have for the world.

YOU WHAT?

■ The original games were (in)famous for their stilted and misplaced dialogue, and while the fourth game considerably improves this, the odd clanger still shines through. Even cool dude Leon is not immune.

GOTTA ROTATE

■ *Resident Evil 4* may have radically altered the series' camera angle and viewpoint, but it didn't entirely throw the baby out with the bath water – Leon still rotates rather than directly moves.

MAKE ROOM, MAKE ROOM!

■ While *Resident Evil 4* dispenses away with the storage boxes, keeping track of your inventory and jigging things around is once again a vital facet of the game. And, crucially, it's fun too.

LOVE WHAT YOU'VE DONE WITH THE PLACE

■ The *Resident Evil 4* designers just couldn't resist. Hidden deep within the castle are several plush residential areas, hugely evocative of the Spencer Mansion from the original game.

WHERE'S A TYPEWRITER WHEN YOU NEED ONE?

■ Answer: everywhere! Fortunately, these rural villagers and their demonic overseers love to write, so there's always a typewriter waiting for Leon to save his progress. No need for those pesky ribbons!

JANUARY 2004

■ Gamers get a good look at the latest version, with much of the initial village section forming a playable demo.

NOVEMBER 2004

■ Capcom publishes a stunning announcement on its official website: *Resident Evil 4* will also appear on Sony's PlayStation 2 console.

JANUARY 2005

■ Capcom releases *Resident Evil 4* on the Nintendo GameCube. It's not only a huge critical success but also a commercial one.

OCTOBER 2005

■ Capcom's horror sequel finally makes it to the PlayStation 2, despite its earlier promise of exclusivity for GameCube owners.

APRIL 2007

■ Shinji Mikami apologises to GameCube owners who bought the console on the promise of *Resident Evil 4*'s exclusivity.

MAY 2007

■ The Wii port of *Resident Evil 4* utilises the console's controllers and becomes another best-seller. It is one of our favourite versions.

▶ came from the contrast that the *Resident Evil 4* bosses bring to the game – for example, we wanted the Berserker to have the same, 'Oh shit!' feel as an El Gigante encounter." Additionally, *Resident Evil 4* brings regular enemies to life, the slow mindless zombies of the previous games a far cry from the villagers and soldiers Leon encounters. "I remember most of the Ganado behaviour of rapidly closing – that was always freaky," remembers Chuck. "And there was always some icky person right in your face about to brain you with an axe!" Throughout *Resident Evil 4*, enemies sway from side to side to dodge Leon's shots, hold their hands up to protect their heads and wield dangerous implements, often throwing them at the agent.

So you get it. *Resident Evil 4* is good. Great, even. But the impact – the impression on gamers, super fans such as Alex Aniel and developers – has rarely, if ever, been matched in videogame history, reaching out to many of the most successful videogame franchises of all time. "When *Resident Evil 4* – the inspiration for our close-up third-person perspective – finally came out in January 2005, it reminded us that *Gears* was about one thing – combat," says *Gears Of Wars* designer Cliff Bleszinski in his book *Control Freak*. "And combat was fought close-up, and it was physical, strategic, scary and subject to a rhythm that was all its own." Even *Resident Evil 4*'s inventory management, smoothed out from the tight and laborious process of the earlier entries, has inspired its own game, Fractal Projects' *Save Room*. "We looked at *Resident Evil 4*'s inventory system when we were making *Rogue Trooper*," says Alex Moore, "especially how the herbs and other items combined. While [*Resident Evil 4*] is a very different game to *Rogue Trooper*, there's always something to learn from the best games out there."

> "EVERY LITTLE ELEMENT TO THE GAME'S DESIGN LEAVES AN IMPRESSION"
> ALEX ANIEL

All the inspiration derived from *Resident Evil 4* springs from admiration of its aesthetic, groundbreaking technical details and gameplay. As the game enjoys its latest iteration, a ground-up remake following countless HD ports and conversions, it's clear that this goes beyond mere nostalgia. "I can't think of another game that's quite like *Resident Evil 4* in terms of the complete package," notes Alex Aniel. "And while many games have adopted its gameplay, you won't find someone like Leon or Salazar in a game like *Dead Space* or *The Last Of Us*."

» [GameCube] They don't look very friendly…

Most strikingly, for a game that's over 18 years old, is how ahead of its time *Resident Evil 4* was. Continues Alex, "Every little element to the game's design leaves an impression, and the quality of the visuals, music and gameplay was far beyond the competition in 2005. Why is it still popular today? Because it's always been entertaining and provocative to play." For Alex, the *Resident Evil* franchise fostered a deeper interest in Japanese culture, culminating in a move to Japan shortly after the release of the fourth game. Fluent in the language, he connected to many of the people behind *Resident Evil* throughout the years for his book, *Itchy, Tasty*. "Without *Resident Evil*, I would be a very different person."

It feels like **Retro Gamer** could dedicate a whole issue to *Resident Evil 4*. Over the last few pages, we haven't even discussed its beloved unlockable, the adrenalin-fuelled Mercenaries, or the most quotable of all of its characters, the ubiquitous Merchant ("What're you buyin'?"). "Why is that so iconic?" laughs Chuck Beaver. "No one knows. But it is." Like so many of *Resident Evil 4*'s parts, the Merchant just fits, and fits perfectly. "Someone who may not have yet played *Resident Evil 4* may be tempted to skip it in favour of the remake," says Alex Aniel. "While I have little doubt that it will be an excellent game in its own right, the 2005 original is something special and not to be missed regardless." ✱

» [GameCube] Leon encounters these inhuman regenerating creatures on the Island section.

Our thanks to Chuck Beaver, Alex Moore and Alex Aniel. To learn more about *Resident Evil 4* and its predecessors, we heartily recommend Alex's book, *Itchy, Tasty: An Unofficial History Of Resident Evil*, available at Amazon and all good bookshops.

JULY 2007

■ *Resident Evil 4* comes second in *Edge Presents The 100 Best Videogames*. It was later awarded an amended 10 in 2013's issue 258.

SEPTEMBER 2011

■ Capcom releases an HD remaster for the Xbox 360 and PlayStation 3. It's fairly basic but still proves to be popular with fans.

AUGUST 2016

■ Capcom brings *Resident Evil 4* up to date in a 60fps 1080p remaster of the HD release, on Xbox One and PlayStation 4.

MAY 2019

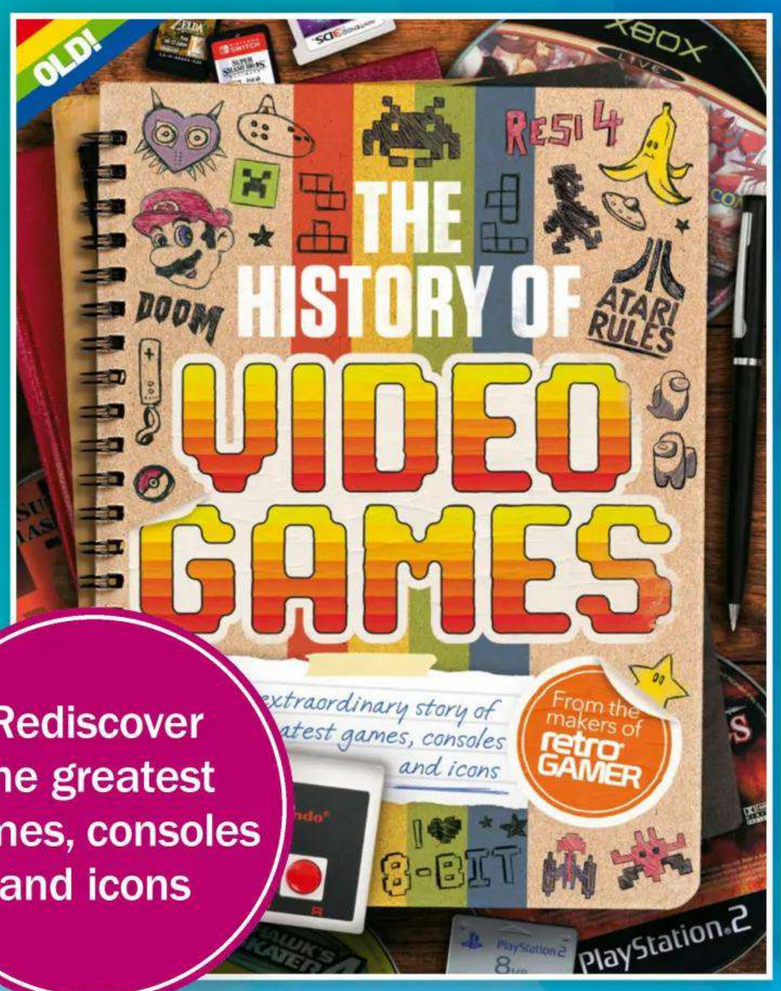
■ *Resident Evil 4* debuts on the Nintendo Switch. Available digitally in Europe it's available elsewhere in physical form with *Resi 5* and *6*.

JUNE 2022

■ Capcom announces *Resident Evil 4 Remake* at Sony's State Of Play show. The game is eventually released in March 2023.

OCTOBER 2056

■ *Resident Evil 4* receives a brand-new makeover for Sony's PlayStation 8 console. Everyone decides to buy it *once again*.



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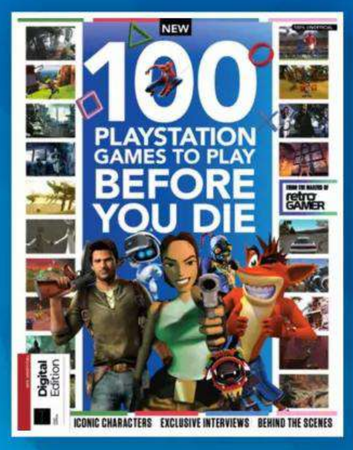

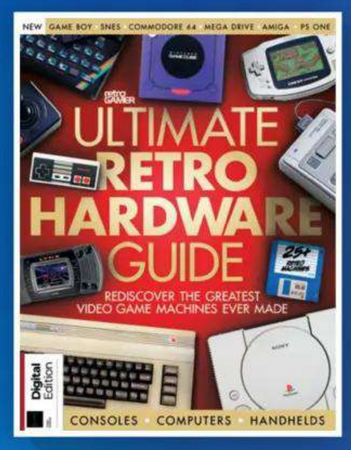

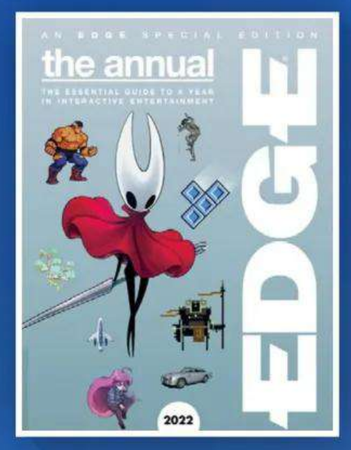

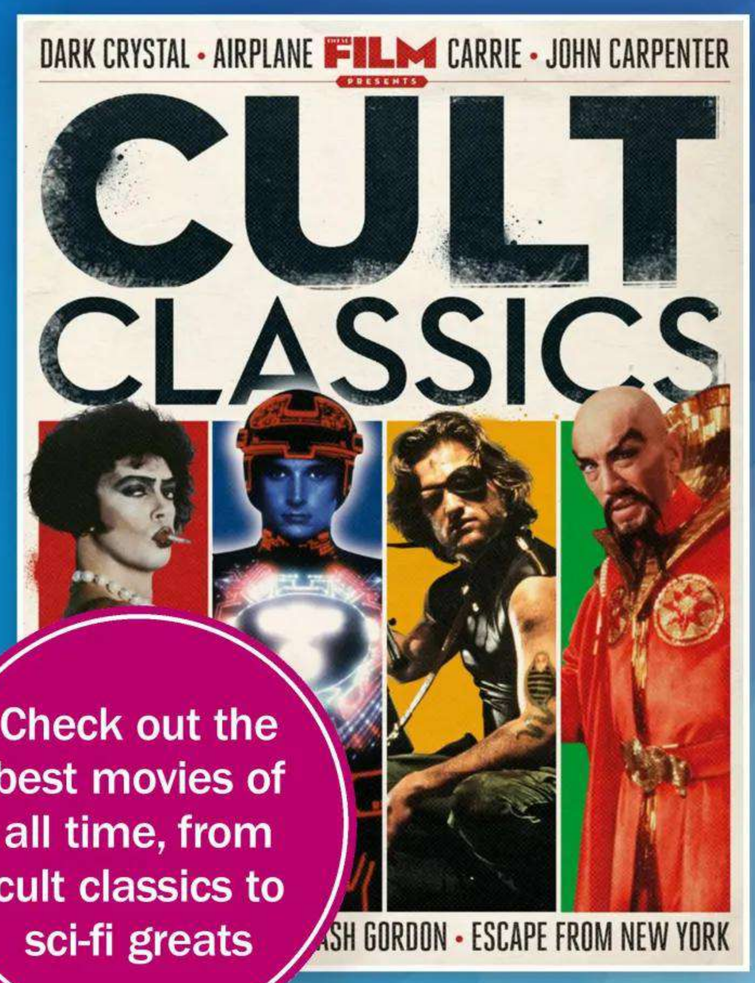

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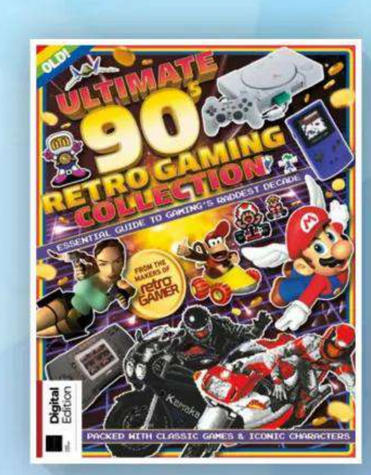

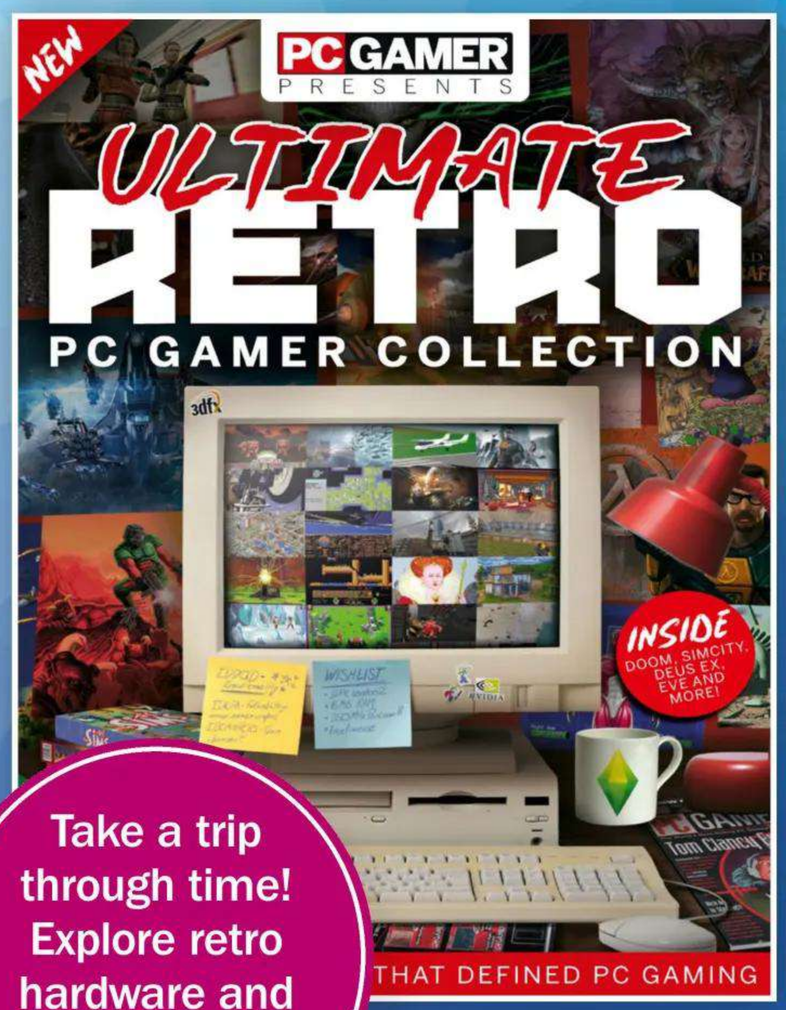

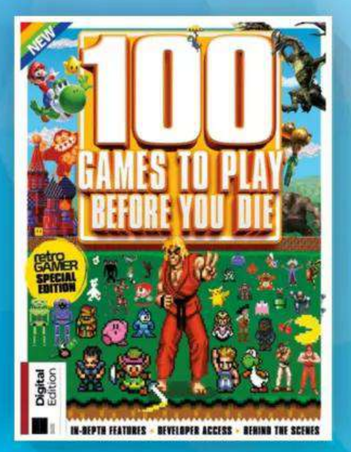

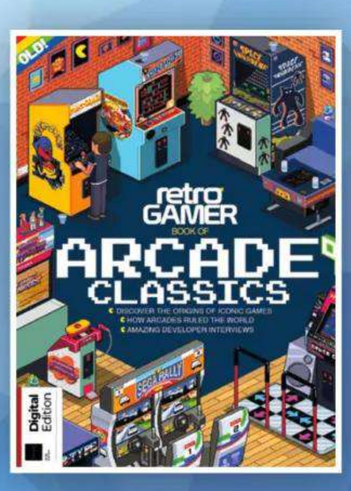

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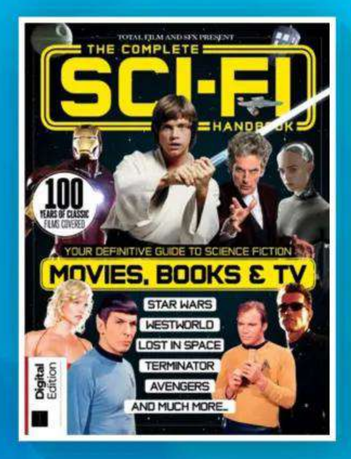

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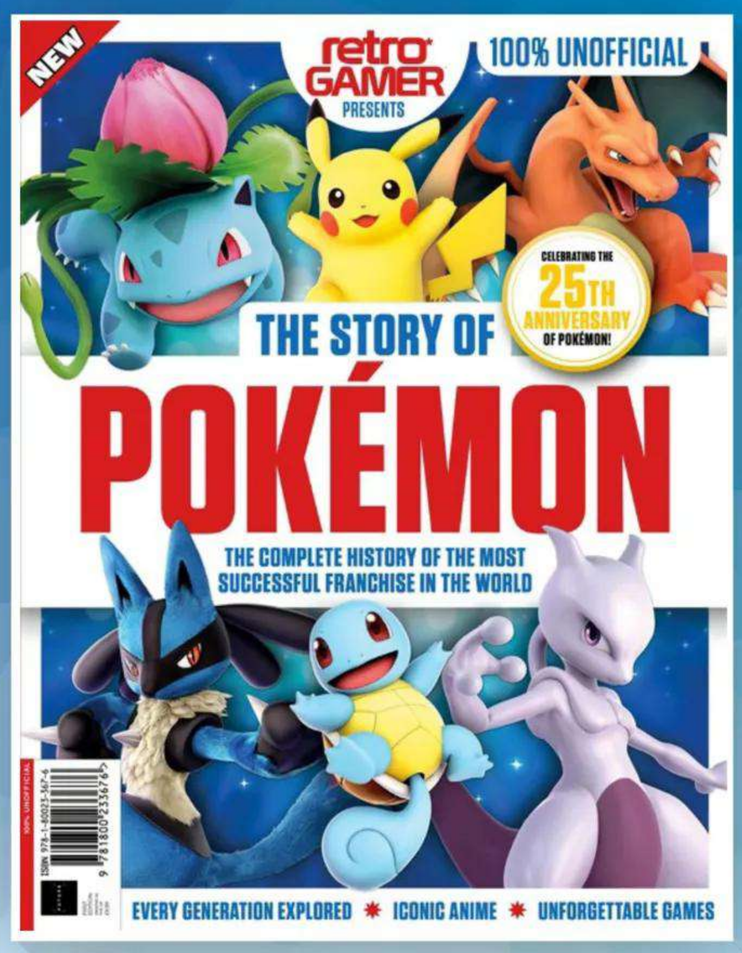
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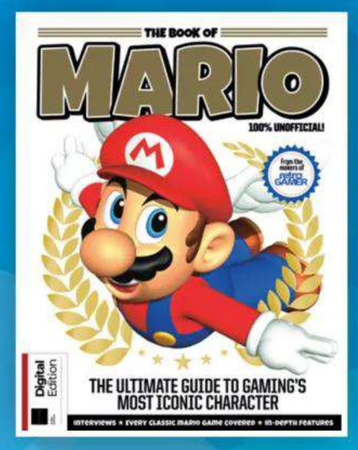

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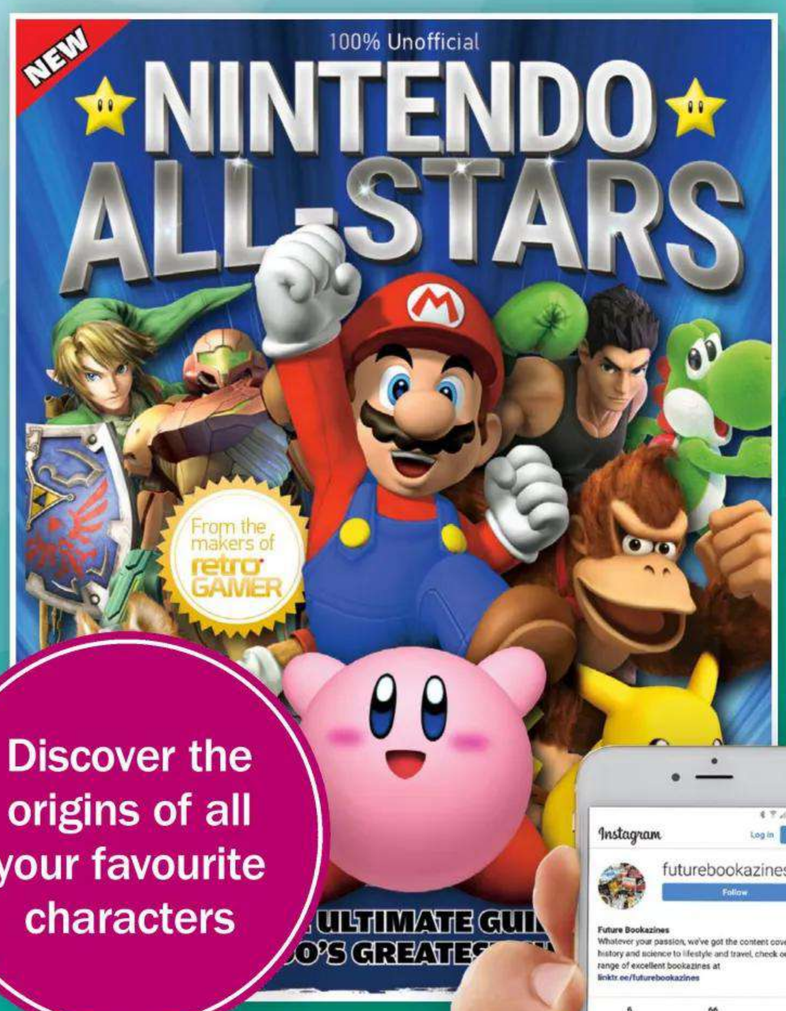

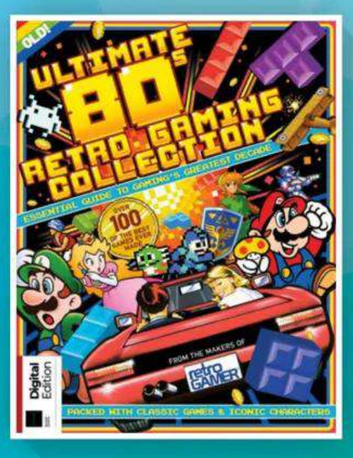
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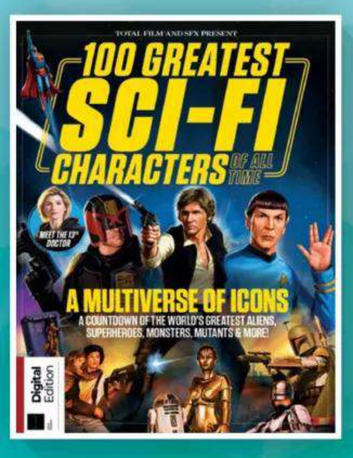
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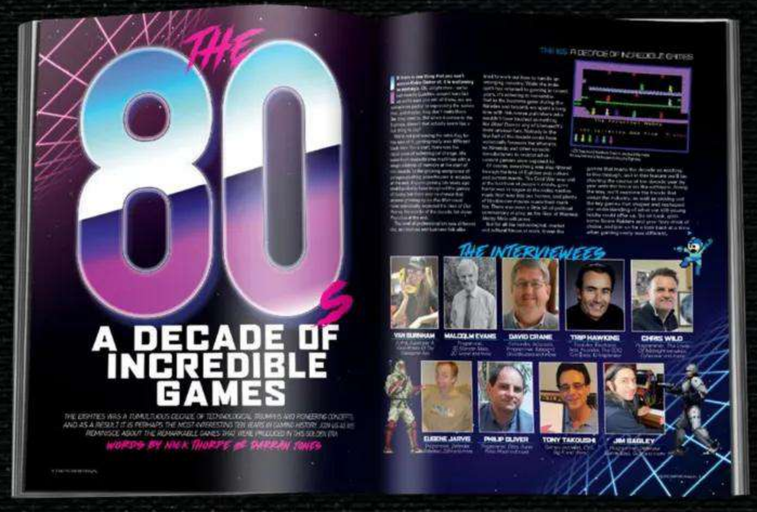

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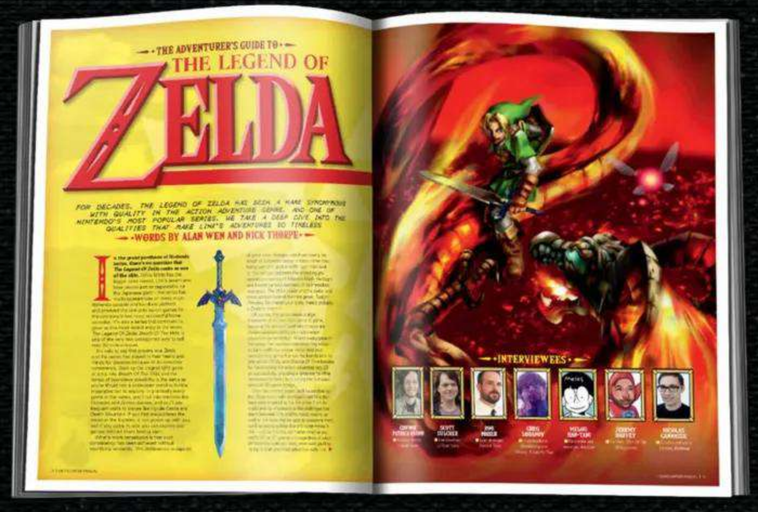

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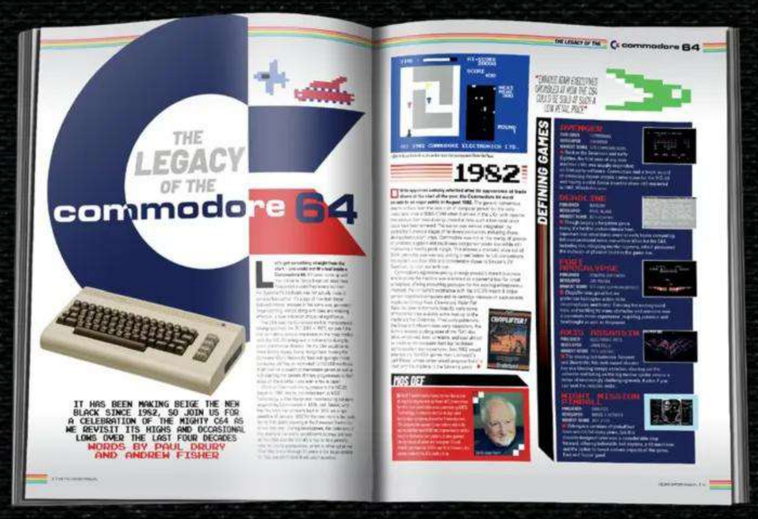

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